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PILLAI'S HOC COLLEGE OF ARTS, SCIENCE & COMMERCE * RASAYANI *

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Proceedings of the National Conference on

"Global Market - One Place, One Idea-II"

JANUARY 20, 2024

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A Study on Women Entrepreneurship Platform under NITI Aayog contribution towards women engagement in Indian Economy 2023

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1. INTRODUCTION

Women's equal access and control over economic and financial resources is critical for the achievement of gender equality and empowerment of women as well as equitable and sustainable economic growth and development. In India female headed households were 11.5 % in rural areas whereas this was 12.4% in urban areas as per 68th round of NSS, 2011-12. Female literacy rate was 65.46 % as per Population Census 2011. Further, the work force participation rate for females was 25.51 as per Population Census 2011. Women have started playing important roles in decision making at all levels. Although data on women labour force, literacy, health aspects etc., are being generated regularly though regular Censuses and Surveys but data on women entrepreneurship at national level is rather scanty. Therefore, during the Sixth Economic Census, questions related to women entrepreneurship in proprietary ownership were added. It covers sex, religion, social group, economic activity, number of workers employed (hired and not hired) and source of finance. It has been observed that 8.05 million out of the total 58.5 million establishments were run by women entrepreneurs in India which is around 13.76 % of the total number of establishments. Total workers engaged in women owned & run establishments were 13.48 million persons, which is 10.24% of the total number of workers engaged in India under different economic activities.

1.1. NITI Aayog

The Women Entrepreneurship Platform (WEP) under NITI Aayog is an initiative launched to support and encourage women entrepreneurs in India. Here's an overview of WEP's key aspects:

Objective: WEP aims to create an ecosystem that promotes women entrepreneurship across

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RESEARCH PROJECT ON STUDY OF "APPLICATION OF ARTIFICIAL INTELLIGENCE IN HRM"

Presented and Prepared

By

Ms.Sanika Sharad Patil

(Author)

Under the Guidance of

Asst.Prof.Vineet Murli and Asst.Prof.Deepa Manoj Nair

(Co-Authors)

Specialization

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THE TRANSGENDER INCLUSION IN THE GLOBAL MARKET TO ACHIEVE THE SUSTAINABLE DEVELOPMENT GOALS –LEAVE NO ONE BEHIND

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ABSTRACT

In the pursuit of sustainable development, the principle of "leave no one behind" stands as a fundamental commitment to ensure that all individuals, regardless of their background or identity, have equal access to opportunities, resources, and rights. However, amidst the global efforts to achieve the Sustainable Development Goals (SDGs) outlined by the United Nations, the transgender community continues to face significant challenges and barriers to inclusion. Despite growing recognition of transgender rights and visibility on the global stage, transgender individuals remain among the most marginalized and vulnerable populations worldwide. This study seeks to shed light on the global status of transgender inclusion within the framework of the Sustainable Development Goals by examining key areas such as healthcare, education, employment, legal recognition, and social inclusion, it aims to assess the progress made, identify persistent challenges, and highlight promising practices and strategies for advancing transgender rights and inclusion in the global market. It requires concerted efforts at the local, national, and international levels to build more inclusive societies where everyone can thrive.

Key words: transgender, Sustainable development goals, global market

INTRODUCTION

Leave no one behind is the central, transformative promise of the 2030 agenda for sustainable development and its sustainable development goals .This study highlight the need for inclusivity and recognition of transgender individuals within the framework global market . Transgender person" means a person whose gender does not match with the gender assigned to that person at birth and includes trans-men and trans-women . Discrimination, stigma, violence, and lack of legal protections often hinder their access to healthcare, education, employment, and social services, perpetuating cycles of poverty, exclusion, and injustice. By cantering the experiences and needs of transgender individuals, this study underscores the urgency of prioritizing transgender rights and inclusion as integral components of the broader agenda for sustainable development. Only by addressing the systemic barriers and inequalities faced by transgender people can we truly fulfill the promise of leaving no one behind in our collective pursuit of a more just, equitable, and sustainable world. The United Nations' Sustainable Development Goals (SDGs) do not explicitly mention transgender inclusion as a standalone goal. However, several of the 17 SDGs indirectly address issues relevant to transgender inclusion. Here are some key SDGs and targets that are particularly relevant to promoting transgender inclusion:

1. Goal 3: Good Health and Well-being : Target 3.8 aims to achieve universal health coverage, including access to sexual and reproductive healthcare services, which are essential for transgender

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DEEP SEA FISHING IN THE ARABIAN SEA: CHALLENGES AND OPPORTUNITIES

Abstract:

India is the seventh largest country in terms of area as well as the largest land mass in the South Asian region, hence, this subcontinent is also called the Indian Subcontinent. The fact that goes here without saying is the country has the longest stretch of coastline which is around 7517 km. This paper delves into an extensive analysis of the Arabian Sea Large Marine Ecosystem (LME), focusing on its geographical extent, primary productivity, fisheries, and associated challenges. The Arabian Sea LME, stretching from Djibouti to the Malabar Coast of India, is characterized by rich biodiversity and high primary productivity driven by various oceanographic features. However, the region faces challenges such as deoxygenated subsurface waters, overexploitation of fish stocks, and the need for effective fisheries management policies. Through a comprehensive review of existing literature and data analysis, this paper aims to provide insights into the complexities of the Arabian Sea LME and propose strategies for sustainable marine resource management.

Keywords: Arabian Sea, Large Marine Ecosystem, Fisheries, Primary Productivity, Challenges, Sustainability

DEEP SEA FISHING IN THE ARABIAN SEA: CHALLENGES AND OPPORTUNITIES

The Arabian Sea Large Marine Ecosystem (LME) is situated in the northwestern part of the Indian Ocean, encompassing diverse coastal regions from Djibouti to the Malabar Coast of India. This paper provides an in-depth examination of the ecological and fisheries dynamics within this expansive marine ecosystem. The Arabian Sea LME spans from Djibouti in the west to the tip of India in the east, including coastal areas of countries such as Somalia, Yemen, Oman, the UAE, Iran, Pakistan, and India. The region experiences high primary productivity, attributed to various oceanographic phenomena such as fronts and upwelling areas off the coasts of Somalia, Oman, Pakistan, and India. However, the climate of the Arabian Sea is significantly influenced by the monsoon seasons, namely the southwest monsoon (June–September) and the northeast monsoon (November–April). Although the Persian Gulf belongs to the Arabian Sea LME, it is here given less emphasis, due to its peculiar characteristics (high temperature and salinity, shallowness), which is covered in recent accounts of its ecology and fisheries. The high upwelling-induced primary productivity led to abundant fish populations in the Arabian Sea LME, now strongly exploited in all but a few cases (notably Djibouti). However, the Arabian Sea is also characterized by

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A RESEARCH REPORT ON

"A STUDY ON DIGITAL MARKETING AND IT'S IMPACT ON REVENUE GENERATION"

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Pillai hoc college of arts, science and commerce

Department of commerce

Co-author: Prof. Hardik Dave

ABSTRACT

A study on digital marketing and its impact on revenue generation with reference to ODigMa Digital marketing is marketing that uses electronic devices (computers) such as personal computers, smartphones, mobile phones, tablets and game consoles stakeholders. Digital marketing uses technologies or platforms such as websites, email, applications (classic and mobile) and social networks Consulting solutions ODigMa Pvt Ltd has become one of the top online media companies in the Indian market. The company offers a plethora of services on all online media platforms. The offer includes marketing and consulting on Facebook, Twitter, LinkedIn, image sharing, YouTube and Google. Although the company was founded only two years ago, it is far ahead of most competitors thanks to their relentless pursuit of excellence and the vast amount of creativity that they put in your work. The company has worked with multiple brands on social networks and currently have 4 out of the top 30 brands on Facebook India.

INTRODUCTION

To begin with, as a part of the curriculum a summer internship programme was to be conducted for a period of two months. Given a choice one was allowed to choose the field in which he/she was interested. As my interest and curiosity was in online or digital marketing I choose to work with a start-up company named ODigMa, I choose the start-up company because with start I can explore myself and why digital marketing? Because it is booming industry, the growth of digital marketing is tremendous and expected to grow more. Due to this summer internship, I learnt every aspect of digital marketing include (business development process, content writing, social media) Marketing practices have dramatically shifted with the rise of social media and proliferation of devices, platforms, and applications. Your prospective and current customers are trying to communicate with you, and you can

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Microfinance: A Catalyst for Alleviating Poverty

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Abstract:.

Microfinance has emerged as a powerful tool in the global fight against poverty, providing financial services to the economically disadvantaged who lack access to traditional banking systems. This study examines the revolutionary effects of microfinance on reducing poverty by examining its historical development, operational mechanisms, and the socioeconomic results it has produced. This research seeks to clarify the effectiveness of microfinance as a tool for empowering the impoverished, encouraging entrepreneurship, and promoting sustainable development. Microfinance refers to individualized financial services that are offered to underprivileged individuals and small enterprises who do not have access to traditional banking sources.

Keywords: Micro-finance, poverty, alleviation

Introduction:

An Overview of Microfinance in India

The idea of "microfinance," a type of financial service that offers small loans and other financial services to impoverished and low-income households in a consistent and legal manner, emerged in response to the need to support low-income families in developing nations like India as well as to uplift and provide them with a better standard. It's a tool for the economy intended to encourage financial inclusion, which lifts low-income and impoverished households out of poverty and raises their standard of living overall. It can help ensure that national programmes aimed at reducing poverty, empowering women, helping disadvantaged populations, and enhancement of the living standard.
In general, there are two methods used in India to expand microfinance services:

- The bank-led method and the Self-Help Groups-Bank Linkage Programme (SHG-BLG).
- The Micro Finance Institution (MFI)-led approach.

In India, there is a wide range of microfinance companies that offer low-income individuals financial services such as pensions, insurance, and loans. The many players in

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A RESEARCH REPORT ON

"A STUDY ON CUSTOMER RELATIONSHIP MANAGEMENT IN MARKETING"

SHAMALI SUNIL PATIL

Pillai HOC College Of Arts, Science and Commerce

Department of Commerce

Co-Author: Dr. Babita Panda

ABSTRACT

A project report to "A Study on Customer Relationship in Marketing" Customer Relationship Management (CRM) is a strategic approach in marketing that focuses on managing and nurturing relationship with customer throughout their lifecycle. It involves collecting, analyzing, and utilising customer data to enhance interactions, personalize marketing efforts, and ultimately drive customer satisfaction and loyalty. CRM encompasses various tools and strategies, such as customer segmentation, data analytics, and communication channels, to tailor marketing campaigns and services to individual customer needs. The primary goal is to foster long-term customer engagement, increase retentions rates, and maximize the lifetime value of customers, resulting in sustainable business growth and profitability. This approach involves the use of technology data, and customer-centric practices to foster and enhance relationships with customers. It has a rich historical evolution, from database marketing in the 1960s to the data-driven Al-powered systems of the present day. As technology continues to advance, CRM will remain a cornerstone of effective marketing, facilitating the development of deeper, more meaningful connection between businesses and their customers.

KEYWORDS:- Customer satisfaction, customer loyalty, customer retention, growth and profitability.

INTRODUCTION

Customer relationship management, often abbreviated as CRM, is a vital concept the modern age marketing strategies. It revolves around the idea of long-term building and care customer relationships to achieve business success. In an era of fierce competition and rapidly changing

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A RESEARCH PAPER ON

"ASSET LIABILITY MANAGEMENT OF ICICI BANK"

Saloni Rajendra Sawant

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Department of Commerce

Co-Author - Dr. Babita Panda

ABSTRACT

Project report on "Asset-Liability Management of ICICI Bank " Asset liability management is a dynamic process of planning, organizing, coordinating and controlling assets and liabilities – their mixes, volumes, maturities, revenues and costs in order to achieve a specified net interest income (NII). . The main objective is to understand the issue of maintenance and management of assets and liabilities. This study was conducted on the basis of secondary data and is descriptive in nature. The study period was limited to the period of five financial years from 2018-19 to 2021 --2022. The required secondary data for the study was collected through various websites, ICICI annual reports and various journals. Advanced statistical tools like – Ratios and percentages have been used to make the analysis meaningful. The main findings are: The bank's capital turnover ratio was satisfactory. The cash ratio was not followed as per the standard, the cash was kept lower than the standard, which indicates that the company should maintain a larger cash balance. The net profit has been maintained at a growing pace, which shows that the company has performed well during the period under review. It is clear from the study that ICICI is looking forward to create a more advantageous service in the near future. The company's balance sheet has been consistent and indicates growth and expansion.

KEYWORD :- Net Interest Income, statistical tools, Ratios, percentage, assets and liabilities, balance sheet.

INTRODUCTION

ICICI was formed in 1955 at the initiative of the World Bank, the Government of India and representatives of Indian industry. The principal objective was to create a development financial institution for providing medium-term and long-term project financing to Indian businesses. Until the late 1980s, ICICI primarily focused its activities on project finance, providing long-term funds to a variety of industrial projects.

Asset liability management (ALM) is a strategic approach of managing the balance sheet dynamic in such a way that the net earnings are maximized. This approach is concerned with management of net interest margin to ensure that it's level and riskiness are compatible with the risk return objectives of the .

Asset liability management is a portfolio management of asset and liability of an organisation. This is a method of matching various asset with liabilities on the basis of expected rate of return and expected maturity pattern.

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Global Market-Worldwide Sales

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Abstract:

The global market represents the interconnected network of economic transactions that occur between countries and regions around the world. In this abstract, we focus on the concept of worldwide sales within the context of the global market. Worldwide sales encompass the exchange of goods, services, and commodities across international borders, facilitated by global trade networks, supply chains, and market dynamics. This abstract provides an overview of key aspects related to worldwide sales in the global market, including: Market Size and Growth, Global trade Dynamics, Market Segments players, competitions, Trent's and Opportunities and Challenges and Risk

Introduction

An increasingly global culture, where individuals are more linked than ever, makes global marketing—which focuses on promoting an organization's goods or services in other markets—a crucial component of marketing management. According to global marketing, there is just one distinct market in the globe. This means that regardless of where in the world a global business's marketing messages and strategy are seen or heard, they will essentially be the same. His methodical approach also implies that: The development and coordination of marketing campaigns is usually done from a single central location, like an organization's headquarters, as opposed to within individual markets. Products and services are generally the same everywhere; for instance, the ingredients and manufacturing process used to make a Coca-Cola can are the same worldwide. Marketing campaigns and brand imagery are also commonly used globally. When products and services are universally appealing and market research indicates they will probably be well-received, global marketing is especially appropriate.

Global Marketing: Promoting a company's goods and services while taking the entire world market into account is known as global marketing. As compared to global advertising, which alters strategies for every nation and area, this is unique.

What Makes International Marketing Crucial?

When a company's product is in universal demand, it is when global marketing is most effective. These are the main advantages of international marketing:

1. International Sales: Increased Profit

The business can grow its consumer base, which is an apparent benefit. Selling to a global market yields higher profits than to a domestic one. Previously, only big businesses could

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A Study on Recent Trends in E-commerce

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Abstract

E commerce is all about buying and selling of products and services through the medium of internet. The concept of E commerce came in India in 1990s but gained its importance in 2000s when many people started performing their transactions through the internet.Online shopping has made its roots strong gradually as many people had a fear of buying online as people were of an approach to see and feel the product and confirming the quality before buying any product.Developments in the field of technology has been a gateway for building of new ideas in e commerce. It has brought many changes in the retail industry and will surely make the retail industry boom in the upcoming future. The paper tries to focus on the evolution of e commerce , recent changes and new trends in e-commerce. It also covers the opportunities and challenges faced by the retailers and some solutions which may help to overcome these challenges .

Keywords E-commerce , Online selling , B2C B2B

Introduction

E-commerce (electronic commerce) is the buying and selling of goods and services, or the transmitting of funds or data, over an electronic network, primarily the internet.E-commerce operates in a variety of market categories and can be conducted using computers, tablets, smartphones, and other smart devices. E-commerce transactions allow you to purchase almost any product or service you can think of, including books, music, plane tickets, and financial services like stock investing and online banking. As a result, it is considered a highly disruptive technology.
E-commerce has revolutionized the way businesses operate and has created new opportunities for entrepreneurs and consumers alike. E-commerce has helped businesses especially those with a narrow reach like small businesses gain access to and establish a wider market presence by providing cheaper and more efficient distribution channels for their products or services. E-commerce dates back to the

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An analysis on awareness about green buildings in Navi Mumbai & its impact on buying decision of potential buyers

Ms. Rachana P Choraghe

Abstract:

The purpose of this study is to contribute to a better understanding of the concept of green building and its awareness amongst the people of Navi Mumbai. Developing such infrastructure is becoming necessary in developing countries like India because of the environmental and economic impact on the future. Even the Union budget 2023 highlighted government focus on green growth, as India heads towards green, environmentally friendly & sustainable development. This study will examine the awareness of green building in people of Navi Mumbai & its impact on the purchasing decision of potential buyers. The investigator uses simple survey methods and statistical techniques to analyse the results & formulate the outcomes.

Key words: Green building, awareness, Navi Mumbai, Sustainable development, Green growth, LEED certification, Infrastructural growth

1. Introduction:

Green building brings together a vast array of practices, techniques, and skills to reduce and ultimately eliminate the impacts of buildings on the environment and human health. It often emphasizes taking advantage of renewable resources, e.g., using sunlight through passive solar, active solar, and photovoltaic equipment, and using plants and trees through green roofs, rain gardens, and reduction of rainwater run-off. Many other techniques are used, such as using low-impact building materials or using packed gravel or permeable concrete instead of conventional concrete or asphalt to enhance replenishment of groundwater. This is important in Mumbai and surrounding areas which receive a tremendous amount of rainwater during monsoon and therefore is flood prone. Hence it is very important to have green buildings in the Navi Mumbai area.

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Recruitment and Selection at Equinox Labs

Author:Shireen Jalgaonkar

Introduction

Recruitment is the process of identifying, screening, shortlisting and hiring the potential human resources for the purpose of filling up the positions within the organizations. The process of recruiting involves choosing the right candidate for a position at the right time.

Selection is the process of choosing the right applicant, who is best suitable for the job. It is the process of interviewing the candidates and analyzing their qualities, which are important for a required job position, and then the selection of the candidates is made as such..

LITERATURE REVIEW

Objective of study

To examine how the company carried out the process of Recruitment and Selection for the required Job Positions.

Data and Methods

Doctrinal and empirical research methodology was adopted. The study has taken a sample size of 30 from Equinox Labs. The questionnaire was distributed.
The only Mumbai employees of Equinox Labs are covered in this poll. 30 employees of Equinox Labs, regardless of age, gender, occupation, or profession, are being questioned for primary data using non-probability convenience sampling. A sample size calculator was used to determine the sample size. The supporting data for the study was acquired from publications such as books, journals, websites, and newspapers. The chi-square is a statistical technique used in Microsoft Excel together with percentage analysis and bar charts to assess the hypothesis.

This study was done in Equinox Labs the internship period was 2 months.

Data Analysis

RECRUITMENT & SELECTION PROCESS:

Recruitment is the systematic process of finding, attracting, and hiring the most suitable candidates with the required skills and qualifications for job openings within an organization.

Key Activities:

- Identifying staffing needs and defining job requirements.

Investors' Preferences and Attitudes: A Comparative Study of Intraday and Positional Trading Strategies

Ms. Sheetal Patariya,
Research Scholar, Dept. of Commerce, SNDT University

Abstract

This research investigates the nuanced preferences of investors in the realm of financial trading, specifically focusing on the distinctions between Intraday and Positional Trading strategies. The primary objective of the study is to comprehensively examine and analyze investor preferences concerning these two distinct trading approaches. Through an in-depth exploration of the factors influencing investment decisions, risk tolerance, and return expectations, the research aims to shed light on the motivations that drive investors to choose Intraday or Positional Trading.

The study employs a mixed-methods research design, combining quantitative analysis of survey data with qualitative insights from interviews with experienced traders and financial experts. A diverse sample of investors from various backgrounds and levels of expertise will be surveyed to capture a broad spectrum of preferences and opinions. The research also considers market conditions, volatility, and economic indicators as additional factors that may influence trading preferences.

Ultimately, the findings of this research are anticipated to contribute valuable insights to the financial community, helping both individual and institutional investors make informed decisions aligned with their trading preferences. As financial markets continue to evolve, understanding the dynamics between Intraday and Positional Trading preferences becomes crucial for optimizing investment strategies and achieving sustainable portfolio returns.

Key words: Stock market, Intraday trading, Positional trading

Introduction

In the dynamic landscape of financial markets, understanding the preferences of retail investors becomes imperative for both individual and institutional players. This research embarks on a journey into the financial trading realm, with a specific lens focused on discerning the nuanced disparities between Intraday and Positional Trading strategies. Set against the backdrop of the bustling financial hub of Mumbai, this study seeks to unravel the motivations and decision-making processes that steer retail investors toward one trading approach over another.

The diverse landscape of retail investors, ranging from novices to seasoned traders, provides a rich source of perspectives. By capturing this diversity, the research seeks to examine the broad spectrum of preferences and opinions prevalent among retail investors. This study adopts a mixed-methods approach, incorporating quantitative data gathered through surveys and qualitative insights obtained from interviews with experienced traders and financial experts. This comprehensive strategy ensures a nuanced understanding of the interplay between individual motivations, market conditions, and the broader economic landscape.

As the backdrop for this investigation, the study considers the unique challenges and opportunities inherent in financial markets, avoiding specific geographic constraints. Market volatility, a key consideration for any investor, is examined alongside relevant economic indicators, enriching the analysis with a contextual understanding of the challenges and opportunities faced by retail investors.

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Hearing the Unheard: Exploring Disability Identity and Representation in Cece Bell's *El Deafo*

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Abstract

In an age marked by the distortion of truth, narratives centered on disability provide a distinct perspective for analyzing the convergence of identity, power dynamics and representation. This research paper examines the portrayal of disability identity and representation in Cece Bell's graphic memoir *El Deafo* within the context of disability literature. Through a detailed analysis of Bell's narrative, this study explores the ways in which the memoir challenges stereotypes and misconceptions surrounding deafness while offering a nuanced portrayal of disability experiences. Drawing on themes of communication, friendship, and self-acceptance, the paper investigates how *El Deafo* contributes to broader conversations about disability representation in literature and its impact on shaping cultural perceptions of disability. Like other literary genres, graphic narratives are increasingly prioritizing own-voices narratives, particularly within the realm of disability representation. A rising number of disabled creators are drawing from their personal experiences to craft authentic and nuanced depictions of disability. This authenticity lends depth to their storytelling, offering a genuine portrayal that resonates with audiences and fosters a deeper understanding of disability. Furthermore, the paper explores the significance of *El Deafo* in challenging ableism and promoting disability pride and empowerment.

Keywords: Disability, Identity, Representation, Ableism, Own Voice Narratives

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WARPED REALITIES: UNCOVERING THE POST-TRUTH DYNAMICS IN THE SECOND WORLD WAR

Abstract:

"Post-truth" describes a situation where emotions, personal beliefs, and subjective opinions often precede objective facts and evidence when shaping public discourse and decision-making. Post-truth dynamics might have involved spreading propaganda, manipulating information, and suppressing dissent to further political agendas and maintain public support for the war effort in the context of the Second World War. The word "warped" indicates a departure from truth or a distortion of reality, while the term "Warped Realities" suggests that the truths of the Second World War were distorted, changed, or manipulated in various ways. During the war, propaganda, censorship, and misinformation frequently created distorted understandings of events, leading to misunderstandings and misconceptions among the public. This research explores how post-truth dynamics influenced perceptions, narratives, and actions during the Second World War. It also proposes an investigation into how the realities of the war were distorted, manipulated, or obscured through the spread of post-truth narratives and tactics. This implies a study of the methods, motivations, and consequences of post-truth dynamics during one of the most significant conflicts in human history.

Keywords: Propaganda, Post-Truth, Censorship, Misrepresentation, Distortion, Manipulation, Misinformation

INTRODUCTION:

Post-truth describes a situation where emotions and personal beliefs take precedence over objective facts, influencing how people think and make decisions. During WWII, the use of propaganda, censorship, and misinformation distorted the truth, causing widespread misunderstandings. Governments manipulated information to maintain public support, often hiding the grim realities of the war.

Nazi ideology centered on extreme nationalism, anti-Semitism, and the belief in Aryan racial superiority. Propaganda Minister Joseph Goebbels harnessed mass media to glorify the Nazi

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Objectification and Commodification of Females in Indian Bollywood Item Songs through Food, Drinks and Other Substances from 1990 to 2024

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Abstract

The present study delves to examine the ways in which females are being objectified and commodified in Indian Bollywood item songs through food, drinks and other objects. Television is considered to be the hyper visible medium of entertainment. Songs play a pivotal role in the life of human beings and could be the ways of expressing one's feelings. It also represents the culture and traditions of a country. Rap and item songs are in vogue nowadays. These songs are full of obscene words which target women and portray them as objects. A list of popular Bollywood rap and item songs from 1990 to 2024 was prepared and an English translation of these songs was accumulated from Google. Through a critical examination of song lyrics, choreography, and visual imagery, alongside an analysis of cultural shifts and industry trends, this study aims to elucidate the ways in which women are depicted as objects of desire and consumption within the context of popular Indian cinema.

Key words: Sexual Objectification of Females, Rap Songs, Item Songs, and Thematic Analysis

ISBN 978-81-969618-8-6

The Media in the Post-Truth Era: Challenges, Implications, and Strategies for Resilience

Ms Disha Chotaliya

Abstract:

The advent of the post-truth era has significantly impacted the role and function of media in society. This research paper explores the challenges faced by the media in the post-truth era, examining the implications for journalistic integrity, public trust, and democratic discourse. Drawing on a multidisciplinary approach, including insights from communication studies, psychology, and political science, this paper analyzes the mechanisms of misinformation, the erosion of trust in traditional media sources, and the rise of alternative narratives. Furthermore, the paper explores strategies for resilience, including fact-checking initiatives, media literacy programs, and ethical journalism practices. By understanding the dynamics of the post-truth era and implementing proactive measures, media organizations can uphold their role as guardians of truth and democracy in an increasingly complex information landscape.

Keywords: post-truth era, media, misinformation, journalistic integrity, public trust, fact-checking, media literacy, ethical journalism

Introduction

In today's rapidly evolving media landscape, the emergence of the post-truth era presents profound challenges for media organizations worldwide. The term "post-truth" refers to a cultural and political environment in which objective facts are less influential in shaping public opinion than appeals to emotion and personal belief. This phenomenon has significant implications for the role of media in society, as traditional journalistic norms of accuracy, objectivity, and impartiality are increasingly called into question.

In this research paper, we explore the challenges faced by the media in the post-truth era, examining the implications for journalistic integrity, public trust, and democratic discourse. We delve into the mechanisms of misinformation, the erosion of trust in traditional media sources, and the rise of alternative narratives propagated through digital platforms. Furthermore, we discuss strategies for resilience that media organizations can adopt to uphold their role as purveyors of truth and accountability in society.

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The Post-Truth age of Business Economics

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Abstract:

Now, when policies are being made, business economists have more obstacles to overcome. The public and some politicians have a bad opinion of "experts" and economists. To that end, business economists ought to be candid about our shortcomings and the limitations of our models. At that point, we will be prepared to stand up for truth against lies. The first thing we need to say in favor of fact-based decision making is that data matters, and that data's impartial integrity matters. The efforts of the Census Bureau, Labour Statistics Bureau, and Bureau of Economic Analysis must be upheld and supported. Telling historical memories of previous crises, attacks on our profession, and data sources is a crucial role for business economists.

Keywords: Truth, Business Economics, Misinformation, Decision Making, Market Dynamics, Transparency, Data Literacy, Technology, Critical Thinking, Trust

Introduction:

In an era dominated by information overload and rapidly evolving technological landscapes, the realm of business economics finds itself at a critical juncture. Traditional notions of economic theory and decision-making are being challenged by a phenomenon often referred to as the "post-truth" age. This age is characterized by the proliferation of misinformation, subjective narratives, and the manipulation of facts to suit specific agendas.

Gone are the days when economic decisions were solely based on empirical evidence and rational analysis. Instead, we find ourselves grappling with a landscape where emotions, beliefs, and ideologies often hold as much sway as objective data. In this introduction, we will explore the dynamics of this post-truth age within the context of business economics, delving into its implications, challenges, and potential strategies for navigating this complex terrain.

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Objective Truth Evaluation and Deciphering Post-Truth Elements as depicted in the Life of King David and Corrie Ten Boom - A Comparative Analysis

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Abstract

During the American Presidential Elections of 2016, Fabricated stories favoring Donald Trump were shared a total of 30 million times. According to Cambridge Dictionary, post truth relates to a situation in which people are more likely to accept an argument based on their emotions and beliefs, rather than one based on facts. It matters enormously if I alienate anyone from the truth, said CS Lewis. This paper aims at deciphering the post truth dynamics from the life of King David, King of Israel. The assassination propaganda was run by King Saul against David, even after the latter continually proved his loyalty to Saul. The attitude of David as he navigates through the people's opinions, his own struggles and constant fleeing for refuge reveal his character. The perspective then shifts to a family in the Netherlands during WWII, who go through unthinkable persecution and turbulence protecting the Jews against the Nazis' [the Nazi version of post truth]. The will to remain steadfast to integrity than to a subjective reality is what the Ten Boom's decide and pay heavy price for the same.

People nowadays don't want to make the decision for what they believe, they want to believe what the majority believes even if it is immoral, unethical and disastrous. The paper's objective is to enable us to see the foundations or the tests for truth. We believe that Truth alone Triumphs.

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Exposition of Post-Truth Theories in Chimamanda Adichie's novel Purple Hibiscus

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Abstract

This paper titled "Exposition of Post-Truth Theories in Chimamanda Adichie's novel Purple Hibiscus" talks about the themes of religious propaganda and hypocrisy while also exploring the subjective point of views of the principal character (Eugene) being pushed upon the other characters (Kambili, Jaja, mother, etc) in the novel. It focuses on the incidents that have a religious importance or are led by the religious ideologies of certain characters in the novel. A tough imposition of the personal version of "truth" can be seen as a factor of confusion and chaos in the lives of the other characters. This paper aims at successfully analysing those incidents of supposed "truths".

Furthermore, the paper explores the contrast between truth and perception, as Kambili is grappled with conflicting narratives propagated by her father and the contrasting worldview offered by her aunt, Ifeoma. Through Kambili's journey of self-discovery, Adichie interrogates the subjective nature of truth, inviting readers to question their own perceptions and confront the complexities of truth-telling in a post-truth era. Although the text does not directly talk about the post-truth era, one can sense the compelling exploration of the complexities of truth, power and identity in today's world.

Keywords: Religion, Post-Truth, Propaganda, Culture, Perception, Power, Identity.

ISBN 978-81-969618-8-6

Pillai HOC College of Arts, Science and Commerce

RECENT TRENDS IN INTER-DISCIPLINARY RESEARCH IN BASIC SCIENCE (RTIRBS-2023)

Editors

Dr. Jayanta K Behera

Dr. Archana Bhagwat

Conveners

Dr. Sulochana B

Dr. Vineetha P.

Content

Assessment of Nonlinear Optical (NLO) Characteristics

Dr. Archana Ashok Bhagwat

Pillai HOC College of Arts, Science and Commerce Rasayani

Abstract

The evaluation of Nonlinear Optical (NLO) characteristics is fundamental to the exploration and utilization of nonlinear optics. This study employs a variety of methodologies, encompassing both experimental techniques such as Electric Field Induced Second Harmonic (EFISH) measurements, and theoretical approaches like Density Functional Theory (DFT) and solvatochromic analysis. The primary objective is to comprehend the behaviour of materials, especially those originating from donor and acceptor systems, in producing second harmonics of applied frequencies. These NLO properties hold immense promise for applications in optoelectronic devices, spanning information storage, signal processing, optical switching, and telecommunications.

Keywords: NLO, polarizability, hyperpolarizability, DFT

1. Introduction

Nonlinear optics emerged with the discovery of second harmonic generation soon after the initial demonstration of the first laser (He-Ne). In this field, light traverses through non-centrosymmetric crystalline solids, generating light at second harmonics of the applied frequency. Under strong fields, such as those produced by lasers, anharmonic motion and higher harmonics are observed. Materials exhibiting second harmonic generation are of great importance and interest, particularly those derived from donor and acceptor systems. Chromophores possessing nonlinear optical (NLO) properties garner attention due to their potential applications in optoelectronic devices for information storage, signal processing, optical switching, and telecommunication. The measurement of NLO properties is carried out experimentally through techniques like Electric Field Induced Second Harmonic (EFISH) [1, 2] and theoretically using methods such as Density Functional Theory (DFT) and solvatochromic analysis.

2. Discussion

2.1 Assessment of NLO properties by solvatochromic and DFT method

2.1.1 Solvatochromic approach

Compounds featuring D-π-A systems exhibit a first excited state characterized by a charge transfer state with a low lying energy level. Consequently, the primary component of the first-order polarizability is denoted as α_{CT} and can be determined using the following equation [3].

Demystifying the Use of Inositol for PCOS: An Opinionated Review

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Abstract

Polycystic Ovary Syndrome (PCOS) is a complex endocrine disorder characterized by a constellation of symptoms that can significantly affect an individual's health and quality of life. Inositol, a naturally occurring sugar produced by the body, has emerged as a significant supplement for managing PCOS symptoms. In addition, its ability to lower gestational diabetes risk and support mental health adds to its multifaceted benefits, marking it a cornerstone in PCOS management. This article delves into these aspects, offering an opinionated review on the efficacy and safety of inositol for PCOS treatment, including its role in improving insulin sensitivity, hormonal balance, and ovulation functions. In particular, this review highlights the role of myo-inositol (MI) and D-chiroinositolil (DCI) in the management of PCOS, highlighting its potential to enhance fertility outcomes and assisting in management of GDM.

Keywords Inositol for PCOS, Polycystic Ovary Syndrome

Introduction

Inositol, a naturally occurring sugar produced by the body, has emerged as a significant supplement for managing PCOS, a complex endocrine disorder. This compound, found in foods and available as a supplement, offers a myriad of health benefits, notably in improving insulin resistance, a core issue in PCOS. Its role in reducing metabolic syndrome risks, lowering cholesterol levels, and supporting ovulation underscores its potential for individuals grappling with PCOS [1][2]. Furthermore, inositol's ability to lower gestational diabetes risk and support mental health adds to its multifaceted benefits, marking it a cornerstone in PCOS management [1][4].

The exploration of inositol for PCOS continues towards understanding its two primary forms—Myo-inositol and D-chiro-inositol—and their implications in PCOS treatment strategies. With growing clinical evidence showcasing inositol's positive impact on insulin sensitivity, ovulation, and ultimately, fertility outcomes, it presents a promising avenue for those seeking to manage PCOS symptoms. Despite its generally safe profile for short-term use, understanding its optimal dosage, potential side effects, and safe administration remains crucial. This article delves into these aspects, offering an opinionated review on the efficacy and safety of inositol for PCOS management [1][2][3][4].

Development in Energy Storage Efficiency of Barium Titanate based Ferroelectric Materials- A Review

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Abstract

Ferroelectric materials are a class of materials that exhibit spontaneous electric polarization that can be reversed by the application of an external electric field. This property makes them promising candidates for various electronic applications, including energy storage. Ferroelectric materials can be used in ferroelectric capacitors to store electrical energy. When an electric field is applied, the polarization of the ferroelectric material aligns, resulting in the accumulation of charge on the capacitor plates. This stored charge can then be discharged when needed, releasing the stored energy. Ferroelectric capacitors have the potential to offer higher energy density compared to traditional capacitors. Compared to normal ferroelectrics, relaxor ferroelectric materials can be used to fabricate high-performance capacitors with enhanced energy storage efficiency. Their high dielectric constants allow for increased charge storage capacity, while their frequency-dependent behavior can improve the efficiency of energy transfer and conversion processes within the capacitor. Barium titanate ($BaTiO_3$) is a well-known and extensively studied ferroelectric material with a perovskite crystal structure. It has been widely investigated for various applications, including energy storage. $BaTiO_3$-based dielectric materials are being explored for advanced energy storage devices beyond traditional capacitors. Research is focused on developing high-energy-density dielectric materials with improved charge-discharge rates, low loss, and high reliability. $BaTiO_3$, due to its ferroelectric properties and relatively high breakdown strength, holds promise for next-generation dielectric energy storage devices. In this paper a review of the development in energy storage efficiency of Barium Titanate based ferroelectric materials has been included.

Keywords: Ferroelectricity, Energy storage, Barium Titanate, Relaxor ferroelectrics

Ferroelectric material- Potential candidate for energy storage

The potential materials for energy storage applications encompass dielectrics, ferroelectrics, relaxor ferroelectrics, and antiferroelectric. While dielectrics boast higher dielectric strength and lower energy

Influence of $(Ba_{0.85}Ca_{0.15})(Zr_{0.1}Ti_{0.9})O_3$ on the Dielectric constant and Curie Temperature of lead-free $(K_{0.5}Na_{0.5})(Nb_{0.7}Ta_{0.3})O_3$ Ceramics

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Abstract

Lead-free (1-x) $(K_{0.5}Na_{0.5})(Nb_{0.7}Ta_{0.3})O_{3-}$ $x(Ba_{0.85}Ca_{0.15})(Zr_{0.1}Ti_{0.9})O_3$ (x =0, 0.02,0.04 0.1) ceramics are prepared by solid-state reaction technique and studied the effect of $(Ba_{0.85}Ca_{0.15})(Zr_{0.1}Ti_{0.9})O_3$ on the dielectric constant and curie temperature of $(K_{0.5}Na_{0.5})(Nb_{0.7}Ta_{0.3})O_{3.}$ XRD results shows that $(Ba_{0.85}Ca_{0.15})(Zr_{0.1}Ti_{0.9})O_3$ diffuses in to $(K_{0.5}Na_{0.5})(Nb_{0.7}Ta_{0.3})O_3$ forming a new solid solution. It is observed that the addition of $(Ba_{0.85}Ca_{0.15})(Zr_{0.1}Ti_{0.9})O_3$ enhances the dielectric constant whereas the incorporation of $(Ba_{0.85}Ca_{0.15})(Zr_{0.1}Ti_{0.9})O_3$ reduces the transition temperature of $(K_{0.5}Na_{0.5})(Nb_{0.7}Ta_{0.3})O_{3.}$ A maximum dielectric constant of 6283 is obtained for the x=0.10 sample at 1 kHz. However, the transition temperature is reduced from 280 °C (x=0) to 65 °C (x=0.10) for the sample. The effect of $(Ba_{0.85}Ca_{0.15})(Zr_{0.1}Ti_{0.9})O_3$ on transition temperature is studied from a temperature-dependent dielectric permittivity graph and is seen that with the increase of $(Ba_{0.85}Ca_{0.15})(Zr_{0.1}Ti_{0.9})O_3$, the monoclinic – tetragonal transition and tetragonal-cubic phase transition shifted toward low temperature. Moreover, with increasing $(Ba_{0.85}Ca_{0.15})(Zr_{0.1}Ti_{0.9})O_3$ content the temperature-dependent dielectric permittivity showed a broadened curve, indicating a diffuse phase transition. The diffuse phase transition in all the samples is explained by Uchino and Nomura's modified Curie Weiss law.

Keywords: Ferroelectricity, Dielectric constant, Curie temperature, Microstructure

Introduction

Sodium potassium niobate (KNN) based and barium titanate (BT) based materials are promising candidates for replacing lead-based materials [1,]. Since potassium is easily volatile, it is difficult to get the desired density. Thus, efforts have been put in to improve the properties by doping and incorporation of other ferroelectric materials in KNN-based materials [2,3]. $(K_{0.5}Na_{0.5})(Nb_{0.7}Ta_{0.3})O_3$ and $(Ba_{0.85}Ca_{0.15})(Zr_{0.1}Ti_{0.9})O_3$ ceramics are potential materials from KNN-based and BT-based lead-free materials [4,5]. Sodium potassium niobium tantalate (KNNT) ceramics are a subset of complex perovskite oxides that have garnered significant interest in the field of electronic ceramics due to their unique properties. KNNT ceramics combine elements of both niobium (Nb) and tantalum (Ta) along with sodium (Na) and potassium (K) in their composition. KNNT ceramics have a complex chemical formula typically represented as (K, Na)(Nb, Ta)O_3. The substitution of niobium and tantalum in the B-

Recent advances of digital technologies in Mathematics

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Abstract

Mathematics is a tool that can influence the values, beliefs, and ideas of students, readers, and listeners. As an outcome, students and users of information must learn how to identify the sound and usable data in a wilderness of numbers. The most recent research on the development of the teacher of Mathematics in Mathematics classrooms involves the use of technical tools, with importance on teacher's experiences within formal and informal professional development programs. The methodological approaches and theoretical ideas emphasize the development of classroom practices at the levels of both individual teachers and groups of teachers, charting their respective growth.

Keywords: digital learning, professional development, challenges

1 Introduction

The challenges of digital learning or online teaching-learning process in Mathematics Education involve technological divides and limitations such as; lack of computers with high-speed internet or internet connections, lack of computer peripherals, lack of functioning computer and Mathematics laboratory, content management software malfunctioning, etc. There are three major challenges facing by Math teachers: Their principles about teaching and learning, content and pedagogy knowledge, and time for reflection and consideration.

The main challenges of online teaching are how to explain and present Mathematics without face-to-face interaction, how to keep a record of student's homework and assignments in real-time, and how to assess and evaluate their knowledge in the end. The earlier research concerning digital technologies directed and focused their lenses on the procedures and outcomes of pupils' Mathematical learning. Most recent research has focused on the development of knowledge of teachers and practices within technology-enhanced classroom environments. This paper includes theoretical issues of Mathematics teaching and learning.

2 Research Methodologies

Role of Mathematics in Data Science

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Abstract

Data science is a multidisciplinary field that combines techniques and methods from various domains such as statistics, computer science, mathematics, and domain expertise to extract insights and knowledge from structured and unstructured data. It involves the use of scientific methods, algorithms, and systems to analyze and interpret complex data sets. Data science and mathematics are deeply intertwined disciplines, with mathematics serving as the foundation upon which much of data science is built.

Keywords: Bayesian Statistics, Optimization Algorithms, Dimensionality Reduction **.**

Introduction

In the era of big data, where vast amounts of information are generated every second, the ability to extract meaningful insights has become invaluable. This is where the marriage between mathematics and data science becomes not just advantageous but essential. Mathematics provides the theoretical framework and analytical tools necessary to unlock the potential hidden within datasets. From statistical analysis to machine learning algorithms, mathematics underpins every aspect of data science, shaping how we collect, process, and interpret data.

2 Research Methodology

Research methodology in data science heavily relies on mathematical principles to design experiments, analyze data, and draw meaningful conclusions. Mathematics provides the framework for conducting rigorous and systematic research in data science, ensuring that findings are statistically sound and reliable.

3. Mathematics is applied in data science

Applications of Nanobiotechnology in Agriculture

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Abstract

Conventional fertilizers releases nutrients in form of chemicals which is not completely accessible to plants. As chemical fertilizers are sparingly soluble in soil which causes less utilization of added nutrients. Excessive use of chemical fertilizers effects on the soil structure and mineral cycles, and fertilizers spoils the soil microflora, plants. Heavy use of nitrogen (N) and phosphorus (P) fertilizers is the major cause of pollution in fresh water bodies and coastal ecosystems.

Agriculture remains the mainstay of economy in many developing countries. But as population is burgeoning around the world, the pressure to produce sufficient agricultural outputs to meet the demand is severely tested. The potential agricultural use of metal and polymeric nanoparticles (NPs) for slow-release micronutrient fertilizers is beginning to be investigated by both industry and regulatory agencies. NPK fertilizers applied as nanoparticulate form may prove to be more effective as fertilizers along with reduction in ground water contamination. Nano fertilizer offer many advantages such as increased nutrient uptake, improved soil fertility, increased bioavailability, activation of plant defence mechanism.

Keywords: NPK fertilizers, nanotechnology, nanofertilizer, precision farming, crop yield

Introduction

Mineral fertilizers are key to food production, despite plant low nutrient uptake efficiencies and high losses. However, nanotechnology can both enhance crop productivity and reduce nutrient losses. This has raised interest in nanoscale and nano enabled bulk fertilizers, hence the concept of nanofertilizers. Nevertheless, large-scale industrial production of nanofertilizers is yet to be realized. During fertilization, application of large quantities of micronutrients often results in nutrient wastage and subsequent environmental pollution. The potential agricultural use of metal and polymeric

Beyond Stereotypes: Examining Gender-Based Variations in Mathematics Scores

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Abstract

This research paper investigates gender-based differences in academic performance, among undergraduate students enrolled in Mathematics courses at a college located in Raigad and affiliated with the University of Mumbai over a three-year period. A random sample of over 1650 students was selected, and descriptive statistics were employed to characterize the student population. The study explores the influence of gender on academic performance and examines significant differences in scores between genders across the three years. Analytical tools such as mean analysis and z-test were utilized to analyze the collected data. Limitations of the study include potential variations in academic background among students, which may impact their performance. This study represents the initial effort to explore gender-based differences in academic performance among undergraduate students in Mathematics courses.

Keywords:

Gender-based variations, Mathematics performance, Academic achievement, Z-test analysis, Undergraduate students, Three-year period, College, Raigad, University of Mumbai

Introduction

In recent years, discussions surrounding gender disparities in STEM fields, particularly in mathematics, have sparked significant debate and investigation. Various reports and studies have highlighted concerning trends, including the underrepresentation of women in science, technology, engineering, and math (STEM) professions, as well as the persistent achievement gap between male and female students in mathematical

Mac Williams' Identities: A Comprehensive Study of Identities in Coding Theory

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Abstract

This paper delves into Mac Williams' Identities, fundamental theorems, and corollaries pivotal for their proof, providing a comprehensive review. Preliminary definitions essential for understanding these identities are discussed in detail. Additionally, illustrative examples are provided to enhance researchers' comprehension, facilitating a deeper understanding of Mac Williams' Identities and their applications in coding theory.

Keywords Mac Williams' Identities, coding theory, fundamental theorems, corollaries, preliminary definitions, illustrative examples, information theory, cryptography, research, comprehension, application.

Objectives

The primary objective of this paper is to provide a thorough examination and elucidation of Mac Williams' Identities in the context of coding theory. Specifically, the paper aims to achieve the following

Objectives:

1. Review and analyze the fundamental theorems and corollaries utilized in proving Mac Williams' Identities

2. Discuss preliminary definitions essential for understanding the conceptual framework underlying these identities.

Preparation of Natural Indicators fromPlant Extracts: Comprehensive Review

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ABSTRACT

This review investigates the feasibility of utilizing natural compounds such as Hibiscus, Onion, and Beetroot as alternative indicators in acid-base titrations, with the goal of addressing the limitations of synthetic indicators. Through a series of titration experiments encompassing both strong and weak acids and bases, the effectiveness of these natural indicators was evaluated. The results indicate that these natural alternatives offer a promising and environmentally friendly solution, exhibiting precise color transitions that reliably indicate the completion of titration reactions. This research underscores the potential of natural compounds to serve as viable substitutes for synthetic indicators in analytical chemistry applications.

Keywords: Natural Indicators, Hibiscus, Acid Base Titration, Onion, Beetroot.

Introduction

Indicators are very important for acid base titration.[1] Indicators are substances which changes their colorsin presence of acids and bases and also changes the pH of solution, pH measures the acidity and basicity of solution.[2] If pH is less than seven then the solution is acidic, If pH is greater than 7 then the solution is basic and pH is 7 then the solution is neutral. Indicators are of three types Natural indicators, Synthetic indicators and Olfactory indicators. Natural Indicators are the indicators which are synthesized from natural indicators whereas Synthetic indicators are the indicators which are synthesized in laboratory from chemical compounds on the other hand olfactory indicators are indicators which varies in smell, when this indicators are added in solution changes the smell of the solution. When the solution is acidic smell remains same but when the solution is basic smell fades away. In this review we are going study about beetroot indicator, Hibiscus indicator[3] and onion indicator among this onion is olfactory indicator and other two are natural indicators.[4]

Statistical Study of QDC CNA Events during Intense storms

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Abstract:

A DCNA is defined as the variation of background cosmic radio noise signal power that is observed with a quiet and undisturbed ionosphere. As the Earth rotates from west to east, the incident cosmic radio noise power from natural extraterrestrial sources undergoes diurnal changes, because of the non-uniform intensity of the incident radiation from deep space to the Earth from different directions.

Introduction

The QDC is a continuous record of this background diurnal variation of the received cosmic noise power as a function of sidereal time [1]. This curve serves as a reference, which can be used to derive ionospheric absorption. Determination of ionospheric D-region absorption of cosmic radio noise by riometer is a signal loss relative to the QDC. While, the major source of cosmic radio noise power comes from the steady radio radiation of our Milky Way galaxy, there is also some contribution from both discrete galactic and extragalactic sources as well from solar radio noise. Kraus [2] reported that, the solar noise at frequencies around 30 MHz during the times of high solar activity, such as near the maximum of the solar cycle, generally much greater than at solar minimum. This can make a significant difference to the quiet day curves.

1.2 Data Acquisition and Analysis proposal

we will be using the cosmic radio noise signals recorded by riometers at different latitude and longitudes in southern and northern hemisphere with ten seconds sampling interval. All riometers operates on 30 MHz with dual dipole wire antenna. Table 3.2 shows the list of stations used to study the variations in the QDC pattern with their location. Out of ten stations, with respect to Corrected Geomagnetic Coordinates (CGM) they are classified as sub auroral (3 stations from northern hemisphere), mid latitude (2 stations from northern hemisphere), Auroral latitude (2 stations from

Fluorescence spectroscopy Applications in marine water and biomolecules analysis

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Abstract

Fluorescence spectroscopy is an analytical technique which is powerful tool in the field of biology, chemistry and environmental science due to versatility, sensitivity and non-destructive nature. This review explores the fluorescence spectroscopy application in two distinct areas first one is an

application analysis of single molecule and other in analysis environmental monitoring in coastal and marine waters. In single molecule study, fluorescence spectroscopy offers the study of molecular dynamics and interactions and confirmation changes with the highest partial and temporal resolution includes the understanding of biomolecular processes, protein findings, DNA replication and enzyme kinetics. In coastal and marine waters analysis fluorescence spectroscopy plays important role in analysing water quality and monitoring pollutants and studying biochemical processes.

Keywords: Fluorescence spectroscopy, analysis, applications

1. Introduction

Fluorescence spectroscopy is a powerful analytical technique used to study the interaction of light with matter. It involves the emission of light by a substance that has absorbed electromagnetic radiation. When a sample is excited with a specific wavelength of light it absorbs energy and then emits light at longer wavelengths, typically with lower energy. This emitted light, called fluorescence, can be measured to provide information about to sample's composition, structure and environment. Fluorescence spectroscopy finds applications in various fields, including chemistry, biology, medicine, environmental science and material science.

2. Discussion

2.1 Principle

Fluorescence is a type of luminescence caused by photons exciting a molecule, raising it to an electronic excited state. It's brought about by absorption of photons in the singlet ground state promoted to a singlet-excited state. As the excited molecule returns to ground state, emits a photon of lower energy, which corresponds to a longer wavelength, than the absorbed photon [1].

Fluorescence spectroscopy analyzes fluorescence from a molecule based on its fluorescent properties. Fluorescence is a type of luminescence caused by photons exciting a molecule, raising it to an electronic excited state [1].

2.2 Spectrofluorometer

Fluorescence spectroscopy is applied in the field of solar energy conversion for studying photophysical processes, light harvesting mechanisms, and energy transfer in solar cells and photovoltaic materials. It aids in optimizing device performance and developing efficient renewable energy technologies.

3. Conclusion

Fluorescence spectroscopy is easy to perform as compared to other spectroscopic methods. In the analysis of single molecule, spectroscopy holds great promise for enhancing our understanding of biological macromolecules and their structure-function relations. In the coastal and marine water analysis, fluorescence spectroscopy used to analyze the organic matters present in water. It also detects the oil slicks, petroleum contaminants, pollution producing materials, heavy metals, etc.

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Advancements in Dye-Sensitized Solar Cells: A Comprehensive Review

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Abstract

Dye-sensitized solar cells (DSSCs) have emerged as promising contenders in the realm of photovoltaics, offering cost-effectiveness, simplified fabrication, and adaptable designs compared to conventional silicon-based technologies. This review meticulously analyzes recent strides in DSSCs, delving into material innovations, novel device configurations, and refined manufacturing methodologies. Noteworthy breakthroughs in dye formulation, electrolyte enhancement, and photoelectrode refinement are highlighted, showcasing strategies aimed at bolstering device performance, durability, and scalability. Moreover, this paper delves into burgeoning trends like perovskite sensitizers, tandem cell architectures, and interface optimizations, providing a glimpse into the future trajectory of DSSC research. By encapsulating the latest advancements in DSSC technology, this review offers invaluable insights for researchers and practitioners committed to propelling the evolution of sustainable photovoltaic solutions.

Keywords: Dye-sensitized solar cells (DSSCs), Photovoltaic technology, Recent advancements Material innovations, Dye design, optimization, engineering, Device efficiency.

1. Introduction

In the dynamic landscape of photovoltaics, Dye-sensitized solar cells (DSSCs) have emerged as a transformative force, challenging the dominance of silicon-based technologies with their blend of affordability, simplicity, and adaptability [1]. Years have witnessed a concerted effort to push the boundaries of DSSC technology, resulting in significant advancements across various fronts. This review aims to provide a comprehensive overview of these recent progressions, focusing on material innovations, device architectures, and fabrication techniques [1, 2, 3].

This review paper aims to provide a comprehensive overview of the recent advancements in DSSC technology, with a focus on key areas of research and development. Specifically, it will discuss the latest strategies and achievements in photoanode engineering, sensitizer design, and device fabrication techniques [1, 4]. By critically evaluating the current state-of-the-art and identifying emerging trends and challenges, this review seeks to offer valuable insights into the future direction of DSSC research and its potential applications in the renewable energy sector [1].

Efforts to enhance DSSC efficiency begin with innovative dye design, optimizing light absorption and electron transfer dynamics. Concurrently, research has aimed to refine electrolyte compositions and photoelectrode engineering to bolster stability and charge transport kinetics. Furthermore, exploration into novel device architectures and fabrication strategies, such as

Recent advances in NLO dyes

Chirag Janardan Bhoir

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Abstract:

Nonlinear optical (NLO) dyes have garnered significant attention in recent years due to their pivotal role in advancing photonics, telecommunications, and optical computing technologies. This abstract provides an overview of the recent advances in NLO dyes, focusing on their synthesis, characterization, and applications. The synthesis of novel NLO dyes with enhanced nonlinear optical properties has been facilitated by innovative molecular design strategies and synthetic methodologies. Characterization techniques such as hyper-Rayleigh scattering, Z-scan, and two-photon absorption spectroscopy have enabled precise evaluation of the nonlinear optical behavior of these dyes. Furthermore, the diverse applications of NLO dyes span from optical limiting and frequency conversion to optical data storage and bioimaging. This abstract underscores the pivotal role of NLO dyes in advancing various photonic applications and highlights the ongoing efforts to further improve their performance and versatility.

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Tamarind as a Green Catalyst

By – Krunali Gajanan Patil

Abstract:

The utilization of natural materials as catalysts in chemical transformations has garnered significant attention due to their eco-friendly and sustainable nature. Tamarind, a tropical fruit-bearing tree, has emerged as a promising candidate for catalytic applications owing to its abundant availability, low cost, and biodegradability. This review explores the recent advancements in employing tamarind-derived catalysts in various organic reactions, including oxidation, reduction, condensation, and esterification. The unique chemical composition of tamarind, rich in organic acids and phenolic compounds, imparts catalytic activity to its extracts. Furthermore, the environmentally benign nature of tamarind-based catalysts offers a greener alternative to conventional synthetic catalysts, reducing the environmental impact associated with chemical processes. This review highlights the potential of tamarind as a green catalyst for promoting sustainable practices in the field of organic synthesis.

Introduction:

The increasing demand for sustainable and environmentally friendly practices in the chemical industry has led to a growing interest in the utilization of natural materials as catalysts. Among these natural catalysts, tamarind, derived from the tropical tree Tamarindus indica, has emerged as a promising candidate due to its abundance, low cost, and biodegradability. Tamarind is widely cultivated in tropical regions and is known for its culinary and medicinal uses, but its potential as a catalyst in organic transformations has only recently been recognized.

The concept of green catalysis aims to minimize the environmental impact of chemical processes by using catalysts that are renewable, non-toxic, and biodegradable. Tamarind fits these criteria well, as it is a naturally occurring material that can be sustainably sourced without causing harm to the environment. Additionally, tamarind-based catalysts have the advantage of being cost-effective compared to synthetic catalysts, which often rely on expensive and sometimes scarce metal complexes.

The chemical composition of tamarind, particularly its high content of organic acids and phenolic compounds, makes it conducive to catalytic activity. These compounds can participate in various organic reactions, including oxidation, reduction, condensation, and esterification, thereby enabling a wide range of transformations. Furthermore, tamarind-based catalysts have been

REDUCING AND RE-USING FOOD WASTE

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ABSTRACT

Food waste is a matter of global concern that has far-reaching effects on our planet, economy, and society. This content delves into an array of strategies that can help curb food waste while encouraging healthy eating habits. Reducing food waste is crucial for sustainable development; it affects economic, social, and environmental pillars and quality of life, and requires balancing population and environment. The staggering scale of the problem is brought to light, with millions of tons of food wasted annually, leading to severe environmental damage, including greenhouse gas emissions and resource depletion. By implementing the tactics discussed, we can not only reduce food waste but also contribute towards creating a more sustainable future. The following passage outlines strategies to reduce food waste throughout the supply chain. It covers techniques such as minimizing losses during agricultural production, improving storage methods to extend shelf life, and optimizing distribution systems to reduce spoilage. The passage also delves into consumer behavior and awareness campaigns to encourage practices such as avoiding over-buying, utilizing creative cooking techniques, and properly storing leftover or imperfect products.

Keywords: *Effect of food waste on environment, food consumption patterns, food losses and waste, food waste, food wastage, food security, food waste recovery, waste management.*

INTRODUCTION

CO_2 Capture and Utilization

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Abstract

CO_2 is one of the main greenhouse gases leading to severe environmental problem [1]. In the struggle against global warming, interest in CO_2 capture and utilization is growing [2]. A notion that may prove promising for the production of chemicals, polymers, building materials, and clean fuels in the future is to view CO_2 not as a waste or a pollutant, but as an opportunity.

Key words: CO_2 capture, co_2 Utilization, energy.

Introduction

Carbon dioxide capture and utilization (CCU) are increasingly gaining global attention. The challenge of meeting energy demand and maintaining CO_2 emissions balance [4]. Several solutions have been proposed to reduce the CO_2 emission, increasing the utilization of eco-friendly energy source. CO_2 can be captured using different process, such as porous material absorption, amine adsorption and membrane separation [4]. The Increase of CO_2 emissions, 280 ppm in 1760 to 410 ppm in 2020, has become a major global warming Problem [1]. Nowadays,

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Application of Green synthesis metal nanoparticles

Neha Patil

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Abstract

The green synthesis of metal nanoparticles has emerged as a sustainable and environmentally friendly approach with versatile applications in various fields. This review explores the wide-range

of applications of metal nanoparticles synthesized by environmentally friendly methods such as plant extracts, microorganisms, and other biocompatible materials. In the food and agriculture sectors, green-synthesized metal nanoparticles contribute to food packaging, preservation, and agricultural applications such as crop enhancement and pest control. They also find utility in the textile industry, imparting antimicrobial, UV-blocking, and stain-resistant properties to textiles for various applications.

Keywords: Nanoparticles, green synthesis, characterization

1. Introduction

Green synthesis of metal nanoparticles involves use of natural substances such as plant extract microorganisms or other eco-friendly methods to reduce metal ion into nanoparticles without the use of hazardous chemicals. Nanoparticles (NPs) are commonly occurring or handling extremely small sized particles in the range of 1 to 100 nm [1].Green synthesized metal nanoparticles are produced from physicochemical methods [2]. Green synthesis processes to metal nanoparticles are sustainable, non-toxic, and cost- effective [3].

2. Discussion

2.1 Nanoparticle Synthesis Methods

2.1.1 Top-down and Bottom-up Approaches

Biological synthesis of nanoparticles offers numerous advantages such as non-toxicity, high yield production, easy scalability, and well-defined morphology. The adoption of green synthesis techniques has proven highly effective in producing nanoparticles that are not only safe but also environmentally friendly and user-friendly [4-6]. Saratale et al. [7] have extensively reviewed various green synthesis practices for nanoparticles, outlining their biomedical and agricultural applications (Saratale et al., 2018a).

The synthesis of green nanoparticles can be broadly categorized into two methods based on nanoparticle formation: "top-down" and "bottom-up" approaches (see Fig. 1). In the "top-down" approach, nanoparticles initially have larger sizes, necessitating mechanical methods or the addition of acids to reduce their size. Typically, this approach involves advanced techniques such as thermal decomposition, mechanical methods like ball-milling, lithographic methods, laser ablation, or sputtering. Conversely, the "bottom-up" approach starts at the atomic level by assembling molecules. Various methods are employed in bottom-up synthesis, including chemical

Preparation of spirulina Tablet

[115]

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ABSTRACT

Spirulina is a microscopic and filamentous cyanobacterium that has a long history of use as a safe functional food. it is a single-cell protein rich in all essential nutrients and vitamins and can be used to produce functional food. In fact, one of the most important problems in the food industry is the use of artificial food additives that increase the risk of cancer. Therefore, efforts are being made around the world today to isolate new and safe antioxidants from natural sources. Among these, the natural products of cyanobacteria are an important source of new drug compounds.

Natural bioactive products not only have medicinal value themselves but are also used as building models to create synthetic analogs. The chemical composition of Spirulina includes protein (70-55%), carbohydrates (25-25%), essential fatty acids (18%), vitamins, minerals, and pigments such as carotene, chlorophyll A and phycocyanin. Obviously, the introduction of valuable properties of cyanobacteria Spirulina can be a suitable substitute for many antimicrobial compounds and synthetic antioxidants that not only pose no risk to the consumer but can also improve consumer health.

In this review, we have discussed the important nutrient, bioactive properties, and preparation of spirulina tablet. The current research suggests that spirulina supplementations have been accepted by global accreditation as a safe nutritional and dietary supplement.

INTRODUCTION

Spirulina is a blue-green algae which is believed to be the first form of plant life on earth. It is one of the most potent nutrients sources available. spirulina is high in protein and nutrients. Spirulina is high in antioxidant with an impressive ORAC (**oxygen radical absorbance capacity**) score over 24,0000, which play a vital role in protecting the body against disease. [1][2]

Spirulina is nature gift as superfood to mankind. It is photosynthetic filamentous microalgae which has emerged as a potent food supplement because of its rich micro and macronutrient contents. It is valuable sources of protein, vitamin, minerals, B-carotene, fatty acid,

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Julolidine D-π-A Dyes: A Review of Properties and Applications

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Abstract

Julolidine D-π-A dyes, featuring a donor-acceptor architecture with julolidine as the donor moiety, exhibit versatile optical and electronic properties. This review presents a concise overview of their synthesis, molecular design principles, photophysical characteristics, and applications. Various synthetic routes, including traditional methods and modern approaches like transition-metal-catalyzed coupling, are discussed. Structural modifications and their impact on optical and electronic properties are elucidated, alongside a comprehensive analysis of photophysical behavior. Additionally, applications in OLEDs, DSSCs, OPVs, and other optoelectronic devices are highlighted. Addressing existing challenges and future research prospects in this field are also outlined. Julolidine D-π-A dyes hold significant promise for advancing organic electronics and materials science.

Keywords: Julolidine, D-π-A dyes, Synthesis, Molecular design, Photophysical properties, Applications

1. Introduction

Julolidine-D-π-A dyes are a class of organic compounds (Fig. 1) widely explored for their remarkable optoelectronic properties, making them valuable in various applications, particularly in the field of organic electronics and photonics. These dyes are characterized by a donor (D) unit, a π-conjugated bridge (π), and an acceptor (A) unit, arranged in a linear fashion. The julolidine

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Review on Green Synthesis Approaches for Silver Nanoparticles

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Abstract

Silver nanoparticles (AgNPs) have attracted considerable attention due to their wide-ranging applications in fields such as medicine, electronics, catalysis, and environmental remediation.

Traditional methods of synthesizing AgNPs often involve the use of hazardous chemicals and energy- intensive processes, posing environmental risks. In recent years, green synthesis approaches have emerged as sustainable alternatives, utilizing natural sources like plant extracts, microbes, and other biological entities to fabricate AgNPs.[1] This review presents an

Insights to the Photoenergy Conversion (Dye-Sensitized Solar Cells)

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ABSTRACT

In the pursuit of sustainable energy sources, solar cells have emerged as a promising technology for converting sunlight into electricity. One key aspect in enhancing the efficiency of solar cells is the utilization of photo energy conversion dyes as sensitizers. These dyes play a crucial role in capturing photons and initiating the electron transfer process within the solar cell. In this abstract, we synthesize findings from a multitude of review papers across different languages to provide a comprehensive overview of the current state of research in this field. Through the analysis of these reviews, we highlight the significance of photo energy conversion dyes in solar cell technology, elucidate the mechanisms underlying their performance, and discuss strategies for optimizing their efficiency and stability. Additionally, we identify key challenges and future research directions aimed at further advancing the development of solar cells with improved performance and cost-effectiveness. This abstract serves as a synthesis of knowledge from diverse linguistic sources, offering insights into the global research landscape on photo energy conversion dyes as sensitizers in solar cells.

Keywords: solar cell, photo energy, efficiency, dyes

1. Introduction

Solar energy has emerged as a pivotal solution in the quest for sustainable and renewable energy sources to meet the escalating global energy demand. Among the various technologies for harnessing solar energy, solar cells stand out for their ability to directly convert sunlight into electricity. However, the efficiency and cost-effectiveness of solar cells remain critical challenges that hinder their widespread adoption. In recent years, considerable attention has been directed towards enhancing the performance of solar cells through the utilization of photo energy conversion dyes as sensitizers.

These dyes, often organic in nature, play a fundamental role in solar cell technology by absorbing photons from sunlight and initiating the photoelectric conversion process. By efficiently transferring electrons to the semiconductor material within the solar cell, sensitizers enable the generation of electric current, thereby enhancing the overall efficiency of the device. The design and engineering of these dyes are paramount in achieving optimal light absorption, charge

ENERGY STORAGE SYSTEM

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Abstract-:

The energy storage technologies are excess renewable energy production. The current study presents a review of commonly used in energy storage technologies. A various technical characteristics and detailed of these technologies is highlighted. Storage system will depend on individual requirements and may even incorporate more than one energy storage system to increase the energy storage capacity and improve energy security.

Introduction-:

Recently, renewable energy is a growing interest system, storage and its infrastructure around the world **[11]**. The renewable energies often covered by one of defaults them intermittently more or less as per estimate. In other word difficult to rely on them systematically to integrate their production in global pattern power supply. The combination of renewable energy sources such is solar and wind energy with suitable energy storage it as able to solve the growing energy demand **[7]**. Several energy storage technologies, as well as a detailed difference based on technical and economic data. Even if it has not yet reached maturity, energy storage has several advantages first; some technologies constitute a real environmental gain, by allowing the large-scale deployment of renewable energy **[2]**.

Keywords-: energy storage system, mechanical energy system

Type-; flywheels, compressed air, pumped hydro, gravity energy

Energy Storage System-:

Advancement in plant mediated synthesis of biodegradable plastic film

Prachi Arjun Nagargoje & Komal Gunjal
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Abstract

Bioplastics derived from cereals and diverse ingredients have emerged as promising solutions to address environmental concerns associated with conventional plastics. This review provides a comprehensive overview of recent advancements in utilizing cereals and other ingredients for bioplastic production. Cereals like corn, wheat, rice, and barley, due to their high starch content, serve as primary sources for biopolymer matrices. Additionally, other ingredients such as sugarcane bagasse, potato starch, and cellulose fibers are explored to enhance bioplastic properties. Various processing techniques, including extrusion, injection molding, and compression molding, are employed to fabricate bioplastic products with desired characteristics. The selection of raw materials and processing methods significantly influences mechanical strength, thermal stability, and biodegradability of bioplastics. Cereal-based bioplastics exhibit promising mechanical properties comparable to conventional plastics and demonstrate excellent biodegradability under controlled composting conditions. The versatility of these bioplastics enables their use in various applications such as packaging, agricultural films, disposable utensils, and 3D printing. Despite their potential, challenges such as limited thermal stability, moisture sensitivity, and cost competitiveness need to be addressed for broader commercial adoption. Future research directions may focus on optimizing processing parameters, exploring novel additives, and improving end-of-life disposal methods to enhance the overall sustainability of cereal-based bioplastics. Through ongoing research and development efforts, cereal-based bioplastics are poised to play a significant role in mitigating plastic pollution and fostering a more sustainable future.

Keyword-: Biodegradable, biofilm, environmentally friendly

Introduction

Currently, petroleum-based plastics, characterized by long polymer chains, are widely used for various large-scale applications due to their diverse mechanical properties and low cost [1-5]. Plastics derived from petroleum-based sources pose severe environmental challenges due to their non-biodegradable nature and long-term persistence in ecosystems. In contrast, bioplastics offer a sustainable alternative, being derived from renewable resources such as plants, microorganisms, and agricultural waste. Plastics are common materials with applications in various industries, from packaging to toy manufacturing [6-8]. Chemically

Effects of Green Leaves on the Chemical Properties of Vegetable Oil

Srinath Ghadge

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Abstract: Vegetable oils have been traditionally been applied in food uses but in recent trends suggest their economic usefulness as industrial fluid. Effect of green powder on acid value of vegetable oil, it has been observed that for good oil the acid value should be less than 0.1.Incoporation of powder of leaves in the vegetable oil, experimentally it has been found that incoporated oil by leaves does not affect on acid value of the vegetable oil. Chemical properties does not affect significantly due to incorporation of powder of leaves These oil have the advantage of offering a positive impact on the environment and human health because they are biodegradable,non toxic and non volatile.

KEYWORDS: Vegetable oil, Industrial fluid, Acid value, Incorporation, Biodegradable, non toxic, non volatile.

Analytical Techniques for micro-plastics: Identification, characterization and Environmental implications

Omkar Subhash Ghugare & Komal Gunjal

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Abstract

Since its invention in the early 20th century, Plastics have proven invaluable in a wide range of industries because of their dependability, Effort ability and versatility. However because of plastics are used so widely, tiny particles known as micro plastic particles smaller than 5 mm in diameter have emerged, raising serious environmental problems. The six most widely used plastics and polymer additives are examine in this analysis, along with techniques for spotting micro-plastics. When combined with spectroscopic and thermal analysis techniques, visual identification tools like optical microscopes (Oms) and scanning electron microscopes (SEM) provide insights into the existence and composition of micro-plastics in various contexts. Furthermore, pyrolysis gas chromatography/ mass spectrometry (pyro- GC/MS) offers important insights into the molecular makeup of polymers. Mitigating the impact of micro-plastics on the environment requires an understanding often precise identification of these particles.

Keywords – Micro-plastics, Analytical techniques, Environmental implications

Introduction

Since the invention of the initial synthetic resin at the start since the beginning of the 20th century, plastics have become essential capable community [5]. Plastics are stable compound materials that are widely used in many industries, including apparel, medicine, packaging, industrial manufacturing and agriculture production. These industries values plastic for their strength Cost effectiveness and durability [4]. It is necessary to evaluate transparently the presence of micro-plastics in various ecosystems, given the potential hazards they pose [1]. Micro-plastics are plastics particles that are smaller than 5 millimetre in diameter. There are two groups of micro-plastics that are classified according to their origins. Primary micro-plastics are made with small particles to be using cosmetics, skin scrubbers, and clothing microfibers. Secondary micro-plastics form when larger items are broken down or fragmented due to solar radiation, weathering, or gradual weight loss in the environment [1].

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Advances in Polymer Technology

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Abstract :-

At the forefront of material science, polymer technology provides adaptable answers to current problems in a variety of industries. This review paper thoroughly examines current developments in polymer technology, including functionalization techniques, composite materials, biodegradable polymers, smart polymers, and cutting-edge technologies like nanotechnology and additive manufacturing. This review clarifies the revolutionary potential of polymer technology, indicating advancements in healthcare, electronics, aerospace, and sustainable development. It does this by drawing on an abundance of research and practical applications.

ORGANOCATALYTIC APPROACH TO PHOTOCHEMICAL LIGNIN FRAGMENTATION

Avantika Longale & Komal Gunjal

Pillai HOC College of Arts, sciences and commerce Rasayani

Abstract :

In the past decade, lignin valorization has gained significant attention. This paper introduces a novel method employing organic catalysis for the photochemical cleavage of carbon-oxygen bonds within lignin. By utilizing photochemistry, the beta o - 4 linkage, a main connection found in lignin, can be fragmented, yielding items produced in significant to abundant quantities. This method integrates seamlessly under documented oxidation circumstances, creating a single – vessel , dual - phase platform devoid of intermediates.

Drug delivery system advancements, difficulties, and future directions.

Jagruti Disale

ABSTRACT:

Because of advances in molecular pharmacology and other fields, it is now essential to target the cells that are directly involved in the onset and progression of diseases. our growing comprehension of the mechanisms underlying the majority of diseases. This is particularly true for the majority of serious illnesses that call for treatment

agents that need to be precisely targeted to the tissue in order to minimise systemic exposure due to their severe adverse effects. By accelerating systemic drug delivery to the exact target site, modern drug delivery systems (DDS) are engineered with state-of-the-art technology to enhance therapeutic efficacy and minimise off-target accumulation throughout the body. As a result, they significantly affect how diseases are managed and treated. Modern drug delivery systems (DDS) are more advantageous than traditional ones because of their improved efficacy, automation, precision, and performance.

DIMETHYL CARBONATE: A VERSATILE REAGENT AND SOLVENT IN GREEN CHEMITSRY – REVIEW

Shraddha Sharad Dabhade

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ABSTRACT

Dimethyl carbonate (DMC) serves as a versatile compound renowned for its eco-friendly attributes, serving as a viable alternative to methyl halides, dimethyl sulfate, and phosgene. This comprehensive review delves into the diverse production routes available for synthesizing DMC, encompassing methods such as phosgenation, oxidative carbonylation, urea alcoholysis, among others. With its inherent characteristics of non-toxicity and biodegradability, DMC emerges as a genuinely sustainable reagent for organic synthesis, effectively curbing pollution at its source. Its broad spectrum of applications spans across various industries, including coatings, paints, and lithium-ion batteries, where it finds utility as an electrolyte. Recent studies suggest dimethyl carbonate (DMC) as a potential oxygenated fuel additive for gasoline or diesel oil, serving as a substitute for tert-butyl methyl ether.

KEYWORDS : Green chemistry, dimethyl carbonate, methylation, organic synthesis.

INTRODUCTION

Increasing global concerns regarding environmental pollution have fuelled the adoption of green chemistry practices, which aim to mitigate pollution by addressing its root causes. Utilizing green materials represents a proactive approach to pollution control, as they can effectively minimize, manage, or even eradicate pollution at its source. This review highlights dimethyl carbonate (DMC) as an exemplary environmentally friendly material, serving as both a green reagent and solvent. DMC offers a sustainable substitute for hazardous substances employed in various chemical reactions. As a non-polar, aprotic solvent, it boasts biodegradable and non-toxic properties, positioning it as a green alternative to conventional solvents and chemicals.[1]

The quest for alternative synthesis pathways for DMC was catalyzed by the hazardous nature of phosgene, traditionally used as a reagent, spurring researchers to explore safer alternatives. The process of oxy-carbonylation of methanol has alreadybeen effectively implemented on an industrial level among the various alternative routes available.

One area of chemistry that still needs work is finding better alternatives to certain chemicals.

Green chemistry: The role of quantum computational chemistry in decreasingenvironmental toxicity and pollution.

Manasi Ashok Gaikar

Pillai HOC collage of Arts, Science and Commerce, Rasayani

Abstract:

Continuously improvement in computational chemistry has authorized quantum mechanical designing in research in green chemistry, it has large contribution in greening practices. Also improvement in industries have led to generate the multi-component, toxic chemicals, materials, pharmaceuticals, etc. which directly or indirectly cause harm to environment. Here for predicting toxicity and pollution in any component is important to get split up between them. here are some recent example of demonstration of computational quantum chemistry to green chemistry. In various research articles we show the production of polymer using carbon dioxide. Some possibility of alternate use of computing as a green in experiment. But also demonstrate search for greener catalyst and the greener solvent. In this review paper we discussed the role of computational chemistry in reducing pollution and toxicity.

Keywords: green; solvents; computational chemistry; quantum chemistry

Introduction:

The Green chemistry is analysis and other similar activity that are focused on the depletion of pollution and toxicity in chemistry, Mostly insustainable chemistry.
Attraction can be used to describe many research projects; green chemistry is well known because it

CURRENT RESEARCH ON ANTI-AGING:

A Review

Dr. Richa Chauhan, Sandesh Khemka

Pillai HOC College of Arts, Science and Commerce, Rasayani

Abstract

Several illness like Alzheimer's, cancer, sarcopenia, osteoporosis, decreased hematopoietic stem cells, etc. are majorly caused by aging. Extensive research is currently being carried out to unveil the mysteries surrounding aging and provide definitive answers to this long-standing scientific inquiry. Scientists have made few breakthroughs in this field, including the development of an epigenetic clock that has potential to predict biological ages, the discovery of the Yamanaka 4 gene which can transform any cell in the body into Induced pluripotent stem cells (iPSCs), and the use of genetically modified white blood cells called CART cells to kill senescence cell. These discoveries hold great potential in the field of aging research and could help us better understand the aging process. However, reversing the aging process presents a profound and prolonged challenge that requires interdisciplinary collaboration. The present work inspires hope for a future where aging is no longer an inevitable part of life.

Keywords: epigenetic clock, Induced pluripotent stem cells (iPSCs), senescence cell and CART Cell.

Introduction

The subject of continuous aging and different lifespan of different species animals has always been a topic of debate. The largest mammal, the bowhead whale, can live up to 200 years(George et al., 1999; Philo et al., 1993), while the tiniest insect, the delicate mayfly, only lasts two days(Edmunds G.F., Jensen S.L., Berner L.,1976). The typical lifespan of a chimpanzee, our closest relative, is only forty years (Altschul, Drew M et al., 2018). But thanks to improvements in lifestyle and medical technology, people are living longer than 80 years old but the presence of more than one aging relative disease in an individual, is posing a major and increasing challenge to healthcare systems worldwide(Pearson-Stuttard et al., 2019). Therefore, a crucial unanswered question is whether aging-related diseases co-occur in individuals and, if so, whether targeting these processes could prevent or treat numerous aging-related diseases at once(Franceschi et al., 2018). The nine hallmarks of aging have been identified by contemporary science and technology(Lopez-Otin et al., 2013). These hallmarks are based on the following: loss of proteostasis, altered

Bio-polymers in Medical Industry's: [POLYHYDROXYLKANOTES (PHA)]

Vaibhav Bamane

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- Abstract: Polyhydroxyalkanoates (PHAs) are a class of biodegradable polymers synthesized by various microorganisms under nutrient-limiting conditions. Due to their biocompatibility, biodegradability, and tunable mechanical properties, PHAs have emerged as promising biomaterials for numerous applications in the medical industry. This abstract provides an overview of the recent advancements and potential applications of PHAs in the medical field. PHAs have been utilized in tissue engineering, drug delivery systems, wound dressings, and implantable medical devices. Their ability to degrade in vivo without producing toxic byproducts makes them ideal candidates for use in biomedical applications. Furthermore, the versatility of PHAs allows for modifications to tailor their properties to specific medical requirements. This abstract highlights the significant role of PHAs in advancing medical technologies and improving patient outcomes, paving the way for the development of innovative biomedical solutions.

- Keywords: Biopolymers, Biomaterials, polymers, Polyhydroxyalkanoates.

- Introduction:

Bio-polymers term was discovered by the Greek words Bio and Polymers which represent nature and living respectively [2]. Biopolymers are polymers that are derived from nature, the biomaterials that have applications in the medical industry should be safe for human life, cooperative to tissue development and it should be biocompatible [1]. The natural sources of biopolymers are plant sources such as Rice, wheat, banana, corn, cotton, potatoes, etc. and animal sources like castles, fish, lobster, and sponges [2]. These bio-polymers should not induce Chronic inflammatory reactions which are often found in synthetic polymers [1]. PolyhydroxyalKanoates (PHAs), cellulose, or polyamine Acids are bio-polymers that have wide applications in the pharmaceutical industry [3]. Because of the properties of Biopolymers, it helps us to replace the synthetic polymers to which human beings are completely reliant [4]. Polyhydroxyalkanoates (PHA) are biodegradable polymers that have a wide range of bacteria that have applications in tissue engineering, delivery of drugs, and medical implants and they can replace conventional petroleum plastic with inherent biodegradability, sustainability, and environment-friendly properties[6] .one of the disadvantage of PHA is it is highly expensive than the petroleum-based polymers like polyethylene, polypropylene, polyvinyl chloride therefore its production is limited[5].

Titanium Dioxide (TiO2) Photocatalysis: Advances, Challenges, and Future Directions

Sheetal Gatade

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Abstract :

Titanium dioxide (TiO2) photocatalysis has garnered significant attention as a versatile and effective technology for addressing global challenges in environmental sustainability, energy conversion, and public health. This review article provides a comprehensive overview of TiO2 photocatalysis, covering its synthesis methods, properties, mechanisms, applications, recent advancements, challenges, and future directions. The synthesis of TiO2 photocatalysts encompasses a range of methods, including sol-gel, hydrothermal, solvothermal, and chemical vapor deposition techniques. These methods enable precise control over nanoparticle size, morphology, and crystalline structure, influencing the photocatalytic activity and performance of TiO2. Understanding the properties of TiO2 is crucial for optimizing its photocatalytic efficiency. TiO2 possesses a wide bandgap, enabling absorption of ultraviolet (UV) light and generation of electron-hole pairs. Its high surface area facilitates interactions with target molecules or pollutants, while the crystal structure, surface chemistry, and electronic properties play pivotal roles in determining photocatalytic activity and selectivity. The photocatalytic mechanism of TiO2 involves the generation of electron-hole pairs upon photon absorption, leading to redox reactions on the TiO2 surface. TiO2 photocatalysis finds diverse applications in environmental remediation, including the degradation of organic pollutants, removal of heavy metals, and disinfection of water and air. Additionally, it is utilized in energy conversion processes such as hydrogen production from water splitting, solar cells, and antibacterial activities for healthcare and food packaging. Recent advancements in TiO2 photocatalysis have focused on enhancing visible-light absorption, improving charge separation efficiency, and developing selective and efficient photocatalytic reactions. However, challenges such as limited visible-light activity, charge carrier recombination, stability issues, and scalability for commercialization persist. Future research directions in TiO2 photocatalysis include the development of visible-light-active photocatalysts, optimization of selective and efficient photocatalytic reactions, enhancement of stability and durability, integration with renewable energy sources, and scale-up for commercialization. Lastly, concluding that TiO2 photocatalysis holds immense promise for addressing global challenges in environmental sustainability, energy conversion, and public health. By advancing research in synthesis methods, understanding fundamental properties and mechanisms, overcoming challenges, and pursuing innovative applications, TiO2 photocatalysis can emerge as a transformative technology with far-reaching societal benefits.

Keywords : TiO2, photocatalyst, bandgap, visible-light.

Evaluation of heavy Metals in Chocolate and Candies

Simran Ramesh Chavan

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Abstract

The daily metal Consumption of children who ate candies and chocolates was also measured. And the results showed that Pb and Zn had the highest intake, followed by Ni, Cd, and Cu. Atomic absorption spectroscopy was used to assess the concentrations of toxic metals under analysis. The results show that the selected candy does not contain the heavy metals that we tested in AAS. So the chosen sample is safe to eat, but certain chocolates contain traces of heavy metals.

Introduction

Some heavy metals are essential trace elements for human health, such as iron and zinc, others can be toxic even at low concentrations. The presence of heavy metals in food, including candy and chocolate, raises concerns about consumer safety and public health. The Sources from which the heavy Metals are found in chocolate and candies are soil contamination, ingredients quality, environmental population, agriculture practices, processing and manufacturing. Packaging material, cross contamination, soil and water quality, atmospheric deposition. The presence of heavy metals in the environment leads to a number of adverse impacts. Such impacts affect all spheres of the environment, that is, hydrosphere, lithosphere, biosphere and atmosphere. Many high-density metals are not especially toxic. Several of them are actually essential elements for human beings, though at certain concentrations they may be toxic in some of their forms. The danger of heavy metals is especially severe, because they are not chemically or biologically degradable. Toxicity of heavy Metals Cadmium accumulates in the body and can have detrimental effects on the kidneys, lungs, bones, and possibly fetal development; it's also classified as a probable human carcinogen. Lead: Even low levels of lead exposure can cause neurological and developmental problems, especially in children. Mercury: Mercury poisoning can affect the nervous system and cause cardiovascular issues. Arsenic: Chronic arsenic exposure is associated with skin lesions, cardiovascular diseases, and certain types of cancer. Conclusion It is evident that heavy metals such as lead, cadmium, mercury, and arsenic can find their way into candy and chocolate through various pathways, including environmental pollution, agricultural practices, and processing contamination. These metals can have serious health consequences, particularly for vulnerable populations such as children and pregnant women. The presence of heavy metals in candy and chocolate poses significant risks to consumer health and underscores the importance of understanding and addressing this issue. Throughout this preparation, we have explored the sources of heavy metal

Emerging Trends in Sustainable Solvents for Green Chemistry

Kalpesh Ashok Mhatre

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Abstract

Sustainable solvents play a crucial role in advancing green chemistry principles by minimizing environmental impacts and enhancing the sustainability of chemical processes. This review article synthesizes recent research on emerging trends in sustainable solvents, focusing on their environmental benefits, applications, and challenges. Various categories of sustainable solvents, including ionic liquids, deep eutectic solvents, supercritical fluids, and bio-based solvents, are explored in terms of their potential contributions to green chemistry practices. Through a comprehensive analysis of recent literature, this review aims to provide insights into the current state and future directions of sustainable solvent development for fostering greener chemical processes.

Introduction

The evolution of sample preparation techniques has played a pivotal role in shaping the landscape of analytical chemistry, enabling researchers to extract, isolate, and analyse target analytes with greater precision and efficiency. In the introductory chapter of "Sample Preparation Techniques in Chemical Analysis," edited by M. Kaykhaii and published by IntechOpen in 2021, the historical progression and transformative impact of sample preparation methods are elucidated. This foundational chapter sets the stage for understanding the significance of sample preparation in chemical analysis and underscores its role in facilitating advancements in analytical methodologies.

As chemical analysis methodologies have evolved over time, so too have the techniques employed for sample preparation. The introductory chapter provides insights into the historical development of sample preparation methods, tracing their evolution from traditional extraction and purification techniques to more sophisticated and automated approaches. By highlighting key milestones and breakthroughs in sample preparation technology, the chapter underscores the continuous quest for improved sensitivity, selectivity, and throughput in analytical chemistry.

Green synthesis of silver nanoparticles

Kajol Pawar

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Abstract :

Nanoparticle range around 1 to 100 nanometers. Biological methods includes microorganisms, plants, bacteria, fungi, yeast and algae. Nanotechnology is simple, cost-effective and ecofriendly. Nanotechnology use in many areas such as medicinal, food industry, sensors, drug analysis, biochemicals and so on. Green synthesis refers nanoparticles without use of hazardous and harmful chemicals. Nanoparticles are widely used because of their special character and unique shapes and sizes.

Introduction :

Nano technology is a main area of contemporary research handling with construct, synthesis and control of particle structure ranging from around 1 to 100 nanometers.(1,2,3,4,5,6)

There are various methods of synthesis of nanoparticles such as physical, chemical and biological that is green method od synthesis of silver nanoparticles.

Methods of Preparation :

Biological Method : The biological method need plants take out as a reducing agent alternative of chemicals or high emission rays. In each biological method plants take out are used taken through tree peel, trunk, tuber, petals, oil, fruit peels, nuts and microorganisms like fungi, yeast, algae and bacteria are used well. (7)

Synthesis of nanoparticles using fungi :

A well organized and easy technique for synthesis silver nanoparticles by fungi. Due to their unusual size for metal bio concentration strong lasting power in metal rich nearby, rapid mycelial expansion, broad scale of extracellular enzyme secretion, and continuity from an economic point of view, a number of fungi are working for biosynthesis of silver nanoparticles.(8)

Mycelial and fungal noncellular filtrate, can be used in fungi-mediated combination to produce intracellular and extracellular silver nanoparticles(9)

Advancements in Biopolymer Production: A Review of Methods, Materials, and Applications

Harsh Narendra

Patil Pillai Hoc college of Arts Science and Commerce

ABSTRACT : Biopolymers, derived from renewable sources, have gained significant attention due to their sustainable and environmentally friendly properties. This review paper provides a comprehensive overview of recent advancements in biopolymer research, covering various aspects such as synthesis methods, properties, applications, and future prospects. Key biopolymers including polysaccharides, proteins, and nucleic acids are discussed in detail, along with their potential applications in diverse fields such as food packaging, biomedical engineering, drug delivery, and tissue engineering. Furthermore, the challenges and opportunities associated with biopolymer development are addressed, along with emerging trends and future directions in the field. KEY WORDS: Biopolymers, Renewable Resources ,Sustainable materials, Synthesis methods, Biodegradability.

INTRODUCTION : Biopolymers have emerged as promising alternatives to traditional petroleum-based polymers due to their renewable, sustainable, and environmentally friendly properties. Derived from natural sources such as plants, animals, and microorganisms, biopolymers offer a wide range of applications across various sectors, including food packaging, biomedical engineering, drug delivery, and tissue engineering. (1)This review paper aims to provide a comprehensive overview of recent advancements in biopolymer research, covering synthesis methods, properties, applications, challenges, and future prospects. The utilization of biopolymers is driven by the growing awareness of environmental sustainability and the need to reduce dependence on fossil fuels.(1,3)Polysaccharides, proteins, and nucleic acids are the main categories of biopolymers, each possessing unique properties and synthesis methods. (3)Polysaccharides, such as cellulose, starch, and chitosan, are abundant in nature and exhibit properties like biodegradability, biocompatibility, and non-toxicity, making them ideal for various applications.(1,3) Proteins, including collagen, gelatin, and silk fibroin, offer excellent mechanical properties and biocompatibility, making them suitable for biomedical and tissue engineering applications. (2)Nucleic acids, such as DNA and RNA, have emerged as promising materials for drug delivery and gene therapy due to their ability to self-assemble and interact with biological systems.(9) The versatility of biopolymers extends across multiple sectors, addressing diverse needs and challenges. (2) food packaging, biopolymers offer a sustainable alternative to conventional plastics, reducing environmental pollution and waste. In biomedical engineering, biopolymers are used to develop biocompatible scaffolds for tissue regeneration, drug delivery systems, and medical implants.(5) In environmental remediation, biopolymers are employed for wastewater treatment, soil stabilization, and pollution control. In agriculture, biopolymers are used for soil

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Brain duplicate techniques of AI

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Abstract: The pursuit of replicating and emulating the complex functionalities of the human brain has been a longstanding goal in the field of Artificial Intelligence (AI). This research paper provides a comprehensive overview of the latest advancements in brain duplicate techniques, aiming to bridge the gap between biological and artificial intelligence. The paper encompasses a thorough examination of both hardware and software approaches, exploring innovative methodologies that strive to mimic the intricate structure and functionality of the human brain. The hardware aspect of brain duplicate techniques delves into advancements in neuromorphic computing, detailing the design and implementation of hardware architectures inspired by the human brain's neural network. Topics such as memristor-based circuits, synaptic transistor networks, and brain-inspired neuromorphic chips are explored, highlighting their potential to enhance computational efficiency, parallel processing, and energy efficiency in AI systems.

Keywords: Artificial Intelligence (AI), Neuromorphic chips, Human brain, Spiking Neural Networks (SNNs), Artificial Neural Networks (ANNs).

Introduction: The quest to replicate the intricate capabilities of the human brain within the realm of Artificial Intelligence (AI) has been a longstanding and multifaceted pursuit. As AI continues to evolve, researchers are increasingly drawn to the challenge of creating systems that not only emulate the complex neural architecture of the brain but also demonstrate cognitive functionalities akin to human intelligence. This research paper explores the latest advancements in brain duplicate techniques, delving into both hardware and software approaches that aim to bridge the gap between biological and artificial intelligence.

The human brain, with its billions of neurons interconnected through intricate synaptic networks, remains an unparalleled marvel of natural intelligence. Mimicking its cognitive prowess in AI systems holds the promise of unlocking new frontiers in computation, learning, and problem solving. The hardware aspect of brain duplicate techniques encompasses innovations in neuromorphic computing, where researchers strive to design circuits and processors inspired by the brain's neural architecture. These advancements aim to transcend the limitations of traditional computing models by embracing parallelism, adaptability, and energy efficiency.

On the software front, the paper explores the evolution of artificial neural networks (ANNs) towards more sophisticated models

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Handwriting Character Recognition

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Abstract: The growing integration of digital technologies across various sectors and daily activities has sparked significant interest in Handwriting character recognition research. Despite Handwriting's enduring relevance, there's a widespread desire to convert Handwriting into electronic formats for easier communication and storage. Handwriting character recognition involves computers discerning and understanding Handwriting from sources like touch screens, photos, paper documents, and more. The complexity of Handwriting stems from individual variations in style. This paper discusses the creation of a Handwriting character recognition system tailored for reading students' and lecturers' notes. It employs artificial neural networks, a subset of artificial intelligence, for development. While various techniques exist, this paper emphasizes the effectiveness and robustness of neural networks for Handwriting character recognition compared to other methods. The paper further outlines the system's methodology, design, architecture, and details testing and results of its development.

Index Term: Support vector machine, neural network, handwriting processing

Introduction: In contemporary society, the pervasive integration of digital technologies has revolutionized various sectors, leading to a substantial increase in the reliance on electronic mediums for storing and transmitting information. Consequently, A noticeable surge in interest has been observed concerning research and efforts dedicated to the advancement and refinement of Handwriting Character Recognition systems, owing to the continued relevance of handwriting in a multitude of daily engagements and routines. While handwriting remains an integral mode of communication, there is a rising demand for the conversion of handwritten copies into electronic formats for efficient communication and storage.

Handwriting character recognition encompasses the computational capacity to discern and decipher coherent handwritten input sourced from an array of platforms, including touch screens, photographs, paper documents, and additional mediums. The complexity of handwriting characters is further amplified by the inherent variability in individual writing styles. As a result, developing effective in these systems poses a unique set of challenges that require sophisticated approaches for

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VISITORS ACCOMMODATION SYSTEM

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ABSTRACT:

The Visitors Accommodation System (VAS) is an integrated solution designed to streamline the management of accommodations for visitors across diverse environments. The system offers a user-friendly interface for efficient booking and reservation management, ensuring real-time availability information. With robust user authentication and authorization controls, VAS prioritizes security. Seamless integration with calendar systems facilitates automated scheduling, and comprehensive reporting tools provide valuable insights for administrators. The system's modular design allows customization to meet the specific needs

INTRODUCTION:

The Visitors Accommodation System represents a modern solution tailored to meet the challenges faced by establishments in managing guest accommodations effectively. As technology continues to redefine various industries, this system aims to revolutionize the traditional approach to handling visitor stays. Whether in hotels, corporate offices, or educational institutions, the system endeavors to provide a seamless, automated, and user friendly experience for both administrators and guests.

In a fast-paced world, manual accommodation management processes often prove time consuming and prone to errors. The Visitors Accommodation System seeks to address these inefficiencies by leveraging technology to streamline the booking process, enhance real time availability tracking, and offer customization options to cater to the diverse needs of visitors.

By integrating with existing visitor management systems, the accommodation system ensures a cohesive approach to handling guest interactions, from check-in to check-out. The inclusion of secure payment gateways adds a layer of convenience and transparency to financial transactions, while robust reporting and analytics tools empower administrators with valuable insights for decision-making.

LITERATURE:

1) Introduction to Accommodation Systems:

- Define the concept of accommodation systems.
- Highlight the importance of efficient and effective accommodation management for visitors.
- Provide an overview of the key features and functionalities of a visitors accommodation system.

2) Technological Trends in Accommodation Systems:

- Explore recent technological advancements in accommodation systems.
- Discuss the integration of technologies such as IoT, AI, and data analytics in enhancing the visitor experience.
- Examine how mobile applications and online platforms have transformed the landscape of accommodation management.

3) User Experience and Interface Design:

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DEVELOPING THE NEW TECHNIQUES FOR PREVENTING AND DETECTING THE CYBER ATTACKS IN THE INTERNET OF THINGS ECOSYSTEM

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ABSTRACT:

Enabling seamless communication, enhance efficiency, convenience in various domains. However, the widespread adoption of IoT has also exposed a plethora of vulnerabilities, making it susceptible to cyber attacks. This research focuses on developing innovative techniques to bolster the security of the IoT ecosystem, concentrating on both preventive and detective measures.

The preventive measures encompass the design and implementation of robust security protocols tailored to the unique characteristics of IoT devices. Utilizing advanced cryptographic techniques, secure authentication, and authorization mechanisms, this research aims to fortify the first line of defense against potential cyber threats. Additionally, the algorithms are proactively mitigate potential vulnerabilities, creating a dynamic and adaptive security framework

INTRODUCTION:

Create a networked ecosystem that enhances efficiency, automation, and convenience across various industries. As IoT adoption continues to proliferate, the interconnected nature of these devices also introduces new challenges, particularly in terms of cybersecurity. The vast

array of devices within the IoT ecosystem presents a critical infrastructure.

Cybersecurity in the IoT landscape is a paramount concern, as the potential consequences of a successful cyber attack can

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AI BASED PERSONALIZED E-LEARNING SYSTEM: ISSUE, CHALLENGES

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Abstract: A personalized e-learning, like, you know, system is like, um, effective and stuff in like, imparting enhanced learning to its users. So, as compared to a, you know, conventional e learning system, which provides like similar contents to each learner or whatever, a personalized learning system, which is like based on Artificial Intelligence (AI) techniques and stuff, provides like specific learning contents and assessments to the learners and all that jazz. This paper, like, presents requirements and challenges for a personalized e-learning system.

Keywords: The adaptability of educational systems has been greatly enhanced by artificial intelligence (AI) and techniques such as educational data mining, knowledge tracing, personalized e-learning, and recommender systems.

Introduction: Learning systems are garnering significant attention due to their scalability and potential to offer uninterrupted and cost-effective learning opportunities around the clock. Artificial Intelligence (AI) is revolutionizing e learning by enabling personalized and tailored content delivery to individual learners.

In contrast to traditional one-size-fits-all e-learning approaches, AI-based adaptive systems deliver highly targeted content to each student, enhancing engagement and learning outcomes. This personalized approach caters to the unique needs and preferences of learners, providing them with tailored resources and materials to optimize their learning experiences.

This paper explores the significant potential of personalized e-learning systems in overcoming the challenges of delivering effective online education. It emphasizes the importance of proposing an efficient architecture tailored to personalized e-learning. Various techniques and challenges are discussed, alongside innovative solutions to address them, ensuring a secure and trustworthy environment that minimizes risks such as centralized authorities, fraud, and manipulation. This study offers a comprehensive review of the latest methodologies utilized in implementing personalized e-learning systems. It delves into the critical challenges and requirements essential for successful implementation. Moreover, it provides an efficient framework for constructing an effective e-learning system, going beyond the basics. Additionally, the paper introduces innovative mechanisms, addresses challenges, and suggests future research directions for the broader community to explore, proposing solutions to overcome these obstacles. It surpasses the basics, my friends! Not only does it present an efficient framework for constructing an effective and remarkable e learning system, but it also introduces innovative mechanisms, addresses challenges, and suggests future research directions that can benefit the entire community. Moreover, it proposes solutions to overcome these obstacles and enhance the future prospects of research in

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The Impact Of Artificial Intelligence In E-Commerce

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INTRODUCTION

- Artificial intelligence (AI) encompasses the ability of computer-controlled robots or software to think intelligently, much like humans. In this paper, we will explore the significant impact of AI in the realm of e-commerce. E-commerce refers to the buying and selling of goods and services using the internet, encompassing transactions involving money and data transfer. It is crucial for e-commerce platforms to identify patterns in consumer behavior to enhance their offerings, and this is where AI technology comes into play. By harnessing the power of AI, accurate forecasting and prediction of trends in e-commerce can be achieved. This paper will delve into the various applications of AI in different areas of e-commerce, ultimately highlighting how it has revolutionized the user experience.

BACKGROUND

The adoption of innovative AI-powered solutions in content marketing is becoming increasingly essential for businesses to maintain a competitive edge. Companies that delay harnessing the potential of AI are at risk of falling behind in the race. From Netflix and Amazon to Flipkart and Google, popular products and services are already reaping the benefits of AI integration. However, in recent years, AI has made significant headway in the field of marketing, providing brands with the means to enhance every aspect of the customer journey. The best part is that these AI tools, previously exclusive to enterprise level companies, have become more accessible and affordable for medium and small-sized businesses. As businesses aim to understand the latest machine-learning applications in marketing, the ability to track and analyze data for customer engagement has become invaluable.

The Interplay Between AI and E-Commerce:

The fusion of AI and e-commerce has proven to be mutually beneficial for both businessmen and customers. Traditionally, e-commerce relied on timely changes in trends, customs, designs, and styles to cater to consumer demands. However, with the incorporation of AI, e commerce platforms now have the ability to identify consumer buying behavior and manufacture products accordingly, resulting in creative and innovative solutions. Every business strives to maximize profits, and this is intricately tied to the sales of goods and services through effective promotional and advertising strategies. AI and e-commerce together form a powerful marketing strategy, enabling companies to reach their target markets through various channels such as media, advertising, and other promotional techniques.

The Growing Potential of E-Commerce and AI

Technology, including virtual reality, software as a service, artificial intelligence, and digital transformation, has propelled the ongoing growth of e-commerce. E-commerce businesses have recognized the numerous advantages in leveraging AI and related technologies. One

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AI VIRTUAL WEBCAM PAINTER

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ABSTRACT:

One of the most exciting and difficult study topics in the world of pattern recognition and image processing in recent years has been writing in the air. It can enhance the human machine interaction in a variety of applications and makes a significant contribution to the automation process's advancement. Numerous studies have concentrated on novel approaches and strategies that would speed up processing without sacrificing recognition accuracy. In the realm of computer vision, object tracking is regarded as a crucial problem. Object tracking techniques have gained popularity because to the development of faster computers, the availability of affordable, high-quality video cameras, and the need for automated video analysis. Typically, a video analysis process consists of three main steps: first, object detection; second, tracking the object's movement from frame to frame; and third, behaviour analysis. Four main considerations are made for object tracking: choosing an appropriate object representation, choosing features for tracking, detecting objects, and tracking objects. In the actual world, object tracking algorithms are mostly used in a variety of applications, including video indexing, autonomous surveillance, and vehicle navigation, among others. Taking advantage of this gap, the project focuses on creating a motion-to-text converter that may be used as software for wearable intelligent gadgets that allow writing while in the air.

This project is a gesture reporter on occasion. It will follow the finger's path using computer vision. Additionally, the created text can be used to send emails and other communications, among other things. It will be an effective way for the deaf to communicate. Because there is no need to write, it is a productive communication technique that lowers the use of laptops and mobile devices.

INTRODUCTION:

The conventional literary craft is being supplanted by digital art in the age of digital technology. The term "digital art" describes artistic expression and dissemination using digital media. Using contemporary science and technology is what makes the digital manifestation unique. The term "traditional art" describes artistic forms that predate digital art. It is easy to categorise into four categories based on the recipient: visual art, auditory art, audio-visual art, and audio-visual imaginative art. This category covers a wide range of artistic mediums, such as literature, painting, sculpture, architecture, music, dance, and theatre. Traditional and digital art are dependent on one another. The primary driving factor behind social evolution is the necessities of human existence, not the desires of the populace. In art, the same thing happens. Since traditional and digital art are currently coexisting in a symbiotic state, it is important that we methodically comprehend the fundamental differences in their forms. The conventional writing

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BIG DATA IN EDUCATION: TRANSFORMING LEARNING ENVIRONMENT

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ABSTRACT:

In the digital age, the implementation of big data analytics is bringing about a dramatic shift in the education sector. The present abstract delves into the impact of big data in the classroom, emphasising its potential to enhance student outcomes, customise instruction, and facilitate strategic decision-making within educational environments. Large amounts of organised and unstructured data that are generated by various educational activities and that are gathered, processed, and analysed are referred to as "big data" in the context of education. This covers social and emotional data as well as demographic information and metrics for academic success as well as student interactions with digital learning environments. Customising instructional materials to meet the needs of a diverse range of students is made possible by the simpler understanding of individual learning patterns that arises from the integration of big data analytics in education. One of the main ways that big data is affecting education is through its ability to facilitate flexible learning settings. Teachers can identify potential issues that students may face and provide prompt answers by utilising predictive analytics. It is also possible to create learning paths that are customised to the needs, interests, and learning styles of individual students, which will increase the engagement and effectiveness of instruction. Furthermore, Big Data is a major component of institutional decision-making processes. Educational administrators can use data-driven insights to improve curriculum design, more efficiently distribute resources, and optimise instructional methodologies. Through the analysis of large datasets, educational institutions are able to assess the effectiveness of their curricula, identify patterns, and implement evidence-based policies that bolster overall learning outcomes.

INTRODUCTION:

Within the field of education, big data pertains to the exhaustive collection, analysis, and interpretation of massive datasets generated by educators, learners, and academic establishments. These databases include, among other things, demographic information, socio-emotional markers, engagement measurements from digital learning platforms, and student performance records. Big Data analytics integration in education is a paradigm change that has the power to enhance instructional techniques, customise learning experiences, and maximise overall educational outcomes. It goes beyond simple technological improvement. Big data is transforming education mostly through adaptive learning systems. Teachers can anticipate potential problems, create interventions to fit specific requirements, and gain a better understanding of each student's individual learning style by utilising predictive analytics. Beyond a one-size-fits-all approach, this level of customisation creates a dynamic learning environment that adjusts to the unique demands of each learner. Furthermore, big data has made it possible for educational institutions to make strategic decisions based on facts. Large-scale dataset analysis helps administrators better manage resources, identify patterns, assess the effectiveness of instructional methods and curriculum design, and more. This empirically supported approach enhances the standard of education while concurrently increasing

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ONLINE VOTING SYSTEM

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ABSTRACT: The Online Voting System is an application that runs on the internet. All of the candidates, voters, and final results are kept in one single database by the system. Voters use a mobile device to confirm a vote through this online voting system. This web-based solution saves time, reduces workload, makes information available when needed, and offers data security. The Indian Election Commission has implemented a novel online voting technique for the election. This website is being kept up to date by the election commission. This is a quick, easy, safe, and secure technique. Voting is the process of selecting an item from a list, electing someone, or making a decision. Selecting leaders to reflect the views of the people is the main aim of voting (in an event involving the population of a certain country). The majority of nations, including India, have issues with voting. A few of the issues are vote rigging during elections, unsafe or unreachable polling places, insufficient polling supplies, and untrained staff.

KEYWORDS: HTML, CSS, security.

INTRODUCTION:

The existing manual voting system takes more time to cast votes. To select the best candidate, voters must wait to enter the polls. After verifying that the voter's ID matches the voter list inside the booth, which has the necessary information, the voter can cast their ballot. In order to cast his ballot, the voter had to wait in line. As all of the work is done on paper ballots, it is difficult to pinpoint a specific candidate; some voters vote for all of the candidates. In order to solve all of these issues, we must put in place a web program that allows voting from anywhere.

The term "online voting system" refers to the use of digital technology to facilitate voting in elections, replacing or supplementing traditional paper-based voting systems. Online voting systems are designed to make the electoral process more accessible, efficient, and secure.

These systems use the internet and other technical resources to let voters cast ballots remotely, usually from the comfort of individual devices.

LITERATURE:

This is a voting mechanism that users can use to participate in elections. To cast their vote, each voter must log in and select the candidates of their choice. LAN is used for testing, development, and research. However, research on online voting software has been ongoing for a long time, with reports of incorrect implementations appearing recently. These issues must be settled in order for the general public to vote in a safe and appropriate setting. With online voting software, any user can exercise their right to vote from any location.

The online voting program has the following features: user names, IDs, and passwords; votes cast by users; total number of votes cast; result panel chatbot for user assistance; and a unique user ID provided by my admin The user's

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ROBOTIC SURGERY

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Guide by Prof.Anita Mhatre
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Abstract: *This study examines robotic surgery's background, uses, and essential roles, with a particular emphasis on how it fits into minimally invasive procedures. It draws attention to the importance of small endoscopic robots and robotic systems in orthopedic surgery. In addition to minimally invasive surgery, orthopedics, heart surgery, gastrointestinal operations, urology, gynecologic therapies, pediatric surgery, etc. The study addresses the uses of robotic surgery in these and other clinical contexts. Robotic surgery has transformed surgical procedures by offering greater accuracy, flexibility, and better patient outcomes. The study comes to the conclusion that the use of robotics in medicine is a significant advancement, demonstrating the power of technology to further our knowledge of the human body and enhance surgical techniques. The applications of robotic interventions are set to grow even further.*

computer-assisted

INTRODUCTION:

With the development of robotic technology over the last few decades, the field of surgical interventions has experienced a paradigm change. This change has ushered in a new era of surgical precision and adaptability and is driven by creative uses of robotics in the medical industry. This study explores the field of robotic surgery, including its history, uses, and crucial function in minimally invasive operations. The use of robots in operating rooms has greatly improved surgical procedures, as evidenced by the terminology "robot-assisted surgery," "medical robotics," "rehabilitation robotics," and "telesurgery" that have emerged. Formal procedures for property verification in the control systems guiding these self-governing robotic systems remain vital, even as the medical community enthusiastically embraces the possibility of robotic surgery. The field of robotic surgery is still relatively new, which means that despite the excitement and demands for innovative concepts and operational processes in surgical practices, there is a constant need to explore tried-and-true methods. It is noteworthy that robotics is recognized as a useful instrument in many surgical applications, including minimally invasive surgery (MIS) and surgery (CAS). Orthopedic surgery is one of the first clinical fields to use robotics, and it has made great use of the special qualities of robotic systems, like precision and repeatability. This first success opened the door to more innovation, particularly with the advent of laparoscopic surgery, which generated great interest in highly skilled teleoperated robotic systems and innovative hand-held smart surgical devices intended for minimally invasive surgery (MIT). Specifically, the application of robotic devices for MIS is the subject of this research, which provides prominent examples including micro endoscopic robots, hand-held smart medical instruments, and big tele-operated high-precision robots. Of them, two stand out as clinically used teleoperated robot systems for MIS: the ZEUS dexterous tele-operation system (Computer Motion Inc., Goleta, CA) and the da Vinci Surgical System (Intuitive Surgical Inc., Sunnyvale, CA). The da Vinci system replicates the surgeon's wrist and finger movements in the thoracic or abdominal cavities, improving surgical precision,

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RESEARCH PAPER: GREEN IT AND SUSTAINABLE COMPUTING

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Abstract: ***The field of information technology (IT) has been increasingly aware of the need for environmentally sustainable practices due to the growing demand for computational resources in recent years. This study offers a thorough analysis of the tenets, approaches, and innovations in technology related to green IT and sustainable computing. The aim is to clarify the importance of incorporating environmentally sustainable practices into IT infrastructure, services, and operations. The first section of the article defines the terms "green IT" and "sustainable computing," emphasizing their foundational ideas and applicability in reducing the environmental impact of computer use. This paper also addresses new developments including data centers powered by renewable energy, the potential of quantum computing, and the necessity of stakeholder collaboration to create environmentally responsible IT solutions.***

INTRODUCTION

The ecology is greatly impacted by the tremendous global increase in industrialization. Our environment is impacted by information and communication technology (ICT) in a number of ways. The production of computers and the numerous electronic and mechanical parts that go into them uses electricity, water, chemicals, raw materials, and hazardous waste. Either directly or indirectly, all of these resources raise carbon dioxide (CO2) emissions. These days, The globe is considering ways to stop climate change and global warming on our planet, "Earth."1.CO2 is the primary greenhouse gas released into the atmosphere as a result of human activity, and it is one of the key factors contributing to global warming. Despite being a natural component of the Earth's carbon cycle, humans are changing the carbon cycle by increasing atmospheric CO2 levels and eliminating natural CO2 sinks.There are various natural sources of CO2 emissions, but the industrial revolution has led to a rise in human-caused emissions. It is important to note that each personal computer (PC) in use produces around one tonne of carbon dioxide annually. Global warming may result from an imbalance in the air's composition brought on by an increase in CO2. Devastating effects of global warming might include altered weather patterns and a rise in sea level brought on by the melting of ice caps, which would render coastal plains untenable. Consequently, it could result in increased frequency of droughts, floods, powerful storms, and other weather extremes that impact agriculture output and depletion of ozone layer. ICT has continuously produced novel products and services, from mobile phones and microcomputers to the Internet, and as a result, it has grown to be an essential part of our daily lives. However, it also plays a major role in contributing to environmental issues like climate change and global warming. ICT currently contributes around 3% of the world's electricity use and carbon dioxide emissions5, and if current trends continue, that percentage is expected to rise to 6% by 2020.3.According to a recent Internet Data Centre (IDC) report, enterprise power and cooling expenditures

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DIAGNOSIS WITH SKIN DISEASE USING CNN

Prachi Dattaram Mhatre Guided by Prof. Namrata K PG student, Pillai HOC College Of Arts, Professor, Pillai HOC College Of Science and Commerce, Rasayani Arts, Science and Commerce, Rasayni

Abstract: Creating a highly accurate methodology can help reduce the number of skin diseases and the significant losses they cause. This study uses CNN to identify seven different kinds of skin diseases. The HAM10000 dataset is employed. There is a severe lack of skilled dermatologists in many nations, and we achieve good accuracy by adding duplation to the dataset. Cancerous disorders such as basal cell carcinoma, melanoma, and pyogenic granulomas, and non-cancerous diseases such as dermatofibroma and melanocytic nevi, can cause a range of detrimental effects on the skin. Conventional approaches to skin condition diagnosis involve numerous tests, are thought to be time-consuming, and necessitate a deep grasp of the field. For the diagnosis, visual evaluation in conjunction with clinical data may be beneficial. The strategy uses Convolutional Neural Networks (CNN) for development. Each illness class contains a disproportionately large number of images—some have several hundred, while others have well over a thousand. These days, creating solutions for these kinds of issues frequently involves the use of image processing.

Keywords: Neural networks, computer-aided diagnosis, and operation classification invarianc

Introduction: The most common diseases in the world are those related to the skin. Even though it is common, diagnosing it is extremely difficult and necessitates a great deal of skill in the field. According to a survey, 24 percent of people see their general practitioner (GP) within a year for a skin condition. Undergraduate dermatology education is variable (and typically constrained), which suggests that trainees should reevaluate their current proficiency in this particular field. Approximately 90% of skin conditions are now handled only by primary care. This suggests implicitly that, with early intervention, the majority of skin disease cases can be resolved. Skin conditions can greatly lower a person's quality of life. patients. The prevalence of skin diseases is rising, and early detection determines prognosis. GPs are crucial in the early detection of skin conditions. Many attempts have been made to apply traditional medicine throughout the world, particularly in less technologically developed nations. However, these efforts have encountered obstacles such as the high cost of medical supplies and equipment and a shortage of medical knowledge. In addition to other causes, environmental factors are usually the cause of skin disease. The equipment needed for early The majority of people worldwide still lack easy access to the diagnosis of these illnesses. Here, the suggested study offers a method for identifying different varieties of these illnesses. When a user enters an image of a skin condition, the system processes it, uses the CNN algorithm for feature extraction, and uses the Softmax

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EVIDENCE PROTECTION SYSTEM USING BLOCHCHAIN TECHNOLOGY

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Abstract:- Block chain is a massively distributed technology that records and stores transactions while encrypting them using cryptography that is built in. The fundamental idea of blockchain technology has been the subject of recent research, with an eye on applications in data protection, food safety, product expansion, and business acceleration across the board in retail settings. Real security architecture components are incorporated into the strategy to stop low levels and fake drugs. Block chain will guarantee compliance with the purchase of any items, even at the level of individual stocks, by strengthening ownership proof by utilizing specific sources. Realistic variables are incorporated into the security systems as part of the attempt to stop low-quality and fake medications.Block chain will guarantee compliance with the purchase of any items, even at the level of individual stocks, by bolstering ownership proof through the use of distinct sources. Due to the fact that every time a product changes hands, transactions can be tracked and validated using a distinct ID called an EPC code, which is generated remotely by FSSAI and is unmistakably referred to as Block chain. It offers constancy and purpose without altering. Once the block is complete, create a completely unique code that either binds to the following page or prevents a sequence of blocks from appearing. Since the entire idea is predicated on a trustworthy cryptographic hash method, copies of the data are similar, the transaction cannot be encrypted, and access to the data requires very little authorization.

Keywords: - Blockchain, digital evidence, chain of custody, and digital forensics.

INTRODUCTION: -

All procedures and stages involved in processing digital evidence need to be thoroughly recorded in compliance with the requirements. citing ISO 27037: 2014 as proof that the steps and requirements for managing digital evidence have been spelled down in detail. The process of identifying, gathering, and preserving digital evidence involves numerous steps. Due to improper management, there are numerous implementation-related challenges. One explanation for the absence of capable police enforcement personnel. The lack of police with knowledge of digital evidence management is the issue at hand. The CoC document still does not support the process of obtaining digital evidence. The procedure of exchanging digital evidence takes minutes at most.

And it needs to be kept apart from CoC. Or, at the very least, the CoC paper has the minutes attached. There will be some mistakes made when utilizing conventional procedures. Since digital data is easily altered, this is especially true in the data integrity sector. The issue of tampering will

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STUDY ON DATA SECURITY POLICY BASED ON CLOUD STORAGE

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Guide by Prof.Jyoti.Shivade[(2)]
Professor,Pillai HOC College of arts,Science and Commerce,Rasayani

ABSTRACT*:* With the increasing popularity of Cloud Computing, Pall storage technology has gained more attention as an emerging network storage technology that is expanded and developed by the general principles of pall computing. Pall computing terrain relies on user services analogous to high-speed storage and recovery provided by the pall computing system. Data screen is a case in point to break urgently for the pall storage technology. In recent times, there have been more and more attacks on the pall storage systems. The data oohing of the pall storage system also passes through the paul storage system. The paul storage screen relates to the user's data screen. The purpose of this document is to achieve the data screen of the paul storage technology and to express corresponding paul storage screen procedure. These were connected with being intellectual disquisitions by assessing the screen risks of the user data in the paul storage and path of applicable paul storage technology, which was based on the structure characteristics of the applicable paul storage system

INTRODUCTION:

The Internet has become an essential part of our lives as a result of the development and advancement of computer technology.
User-consumption of the Internet is no longer limited to browsing the portal, but the development of the Internet application services has led to an explosion of data.

In order to cope with this massive amount of data, the Internet Service Providers (ISPs) need more processing units (PUs) and storage devices (SDRs) to ensure the proper functioning of the system functions. Despite this, the ISP is still facing the challenge of high cost of

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DATA INTEGRITY AND PRIVACY MODEL IN CLOUD COMPUTING

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ABSTRACT: Cloud computing is considered the next generation of computer technology and the way forward for the computing industry. One of the main causes of concern in cloud computing is privacy and data integrity. Customers need their data to be secure and shielded from prying eyes and illegal access. The various components of this paradigm execute several protocols and algorithms (such as MD5, AES, and RSA-based PHE) to ensure the highest levels of integrity management and privacy preservation for data stored in public clouds like Amazon S3. To confirm the effectiveness of the suggested approach, the impact of algorithms and protocols—which are used to guarantee data integrity and privacy—is examined. Data integrity and privacy are protected against unauthorized parties, as demonstrated by the prototype system. By using a third-party integrity checking service and implementing security measures to protect the privacy and confidentiality of data saved in the cloud, this model lessens the burden of verifying the integrity of data kept in cloud storage. This study suggests an architecture-based strategy for cloud computing that provides privacy preservation and data integrity verification.

INTRODUCTION:

The next wave of computing technologies is thought to be cloud computing, which gives users instant access to shared computer resources. There are several deployment types available, including hybrid, public, community, and private clouds.Cloud computing is a leading technology of the future because of its many benefits, which include:

1) extremely cheap ownership cost when compared to constructing one's own server farms or data centers.

2) superior quality of services offered by the supplier, including high dependability, security, and availability

3) Simple data access at any time and from any location.

Through the service layers included in cloud architecture, cloud computing offers multiple channels of communication between cloud servers and users, including:

1) Full application as a service is offered by software as a service (SaaS).

2) Platform as a service (PaaS), which offers commercial customers autonomously managed platforms upon which to build further apps.

3) IaaS, or infrastructure as a service, offers a comprehensive environment for setting up, operating, and maintaining virtual computers and storage.Even with cloud computing's many benefits, there are also a lot of additional security challenges,

SPAM EMAIL CLASSIFIER

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Abstract:

In the modern digital world, classifying spam emails is an essential responsibility. In this research, we propose to categorize email messages as either authentic or spam using ML and NLP approaches. The project's goal is to create an effective spam classifier that can distinguish between real and spam emails with accuracy. The project's dataset will comprise a sizable quantity of email correspondence tagged with the appropriate classification (spam/ham). feature extraction are a few NLP techniques we'll utilize to preprocess the text input and extract pertinent features.To choose the finest machine learning algorithm, we will assess a number of them, model for categorizing spam. Furthermore, hyperparameter adjustment will be employed to maximize the model's efficiency. F1-score, precision, recall, and other evaluation metrics will be used to gauge the classifier's accuracy. One of the project's deliverables. This model will enhance email security and improve efficiency. The research will also improve the advancement of NLP and ML techniques for the categorization of email spam.

INTRODUCTION

In the current digital era, email spam has grown to be a serious issue that presents difficulties for people, companies, and organizations alike. Spam is the term for unsolicited emails that overflow inboxes, wasting time and money and even exposing recipients to frauds or harmful content. Machine learning methods have become effective tools for
detecting email spam in order to address this problem.Here this field. Accurately classifying incoming emails as spam or valid (ham) is the aim of email spam detection.
Because spam is always changing, traditionalrule-based methods are not as effective as they could be. Using from big email datasets, machine learning provides a more dynamic and flexible method.
From tagged email collections, machine learning algorithms can develop models that can identify patterns suggestive of spam. Then, new, unseen emails can be automatically classified using these models. Machine learning algorithms can detect and forecast spam traits by examining a variety of email parameters, including text, embedded URLs, subject line, and sender information
one of the most popular communication channels in the modern digital era, and spam emails have grown to be a serious issue for both individuals and businesses. The goal of this project is to create an accurate email spam classification system using ML, NLP.
The system's effectiveness will be assessed using a number of criteria, including F1 score, accuracy, precision, and recall.
The creation of a precise and effective method for classifying spam emails has the potential to greatly enhance email management and decrease One of the most widely used forms of communication is email, but regrettably, spam messages frequently target it as well. In addition to being a time waster, spam emails may include dangerous attachments or links that
compromise computer systems. The amount of emails being sent out is increasing, making it more difficult to manually detect and categorize spam emails.
Therefore, new opportunities for automated email spam classification have been made possible by the advancement of (ML) and (NLP) approaches. based on content and other pertinent aspects.
Building a model to evaluate email text and identify spam from legitimate emails.

LITERATURE SURVEY:

- Yamakami, A., Gómez, H. F., and Almeida,

Customer Churn Prediction Using Machine Learning

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Abstract:

Companies have to fight hard to lure in new customers from their suppliers. Client retention is a trendy issue for investigation since it directly impacts a business's revenue. Thus, through customer retention programs, all businesses could employ a range of strategies to recognize their clientele early on. All customer information dating back around nine months prior to the churn is included in the data used in this research. Anticipating the reactions of current clients is the aim in order to retain them. Several algorithms, including k-nearest neighbors, random forest, logistics regression etc have been tested in this work. By analyzing these algorithms and debating the best of the four from various angles, we have obtained the most efficient outcomes.

INTRODUCTION

Churning is the term used in marketing to describe the quantity of customers that ceased utilizing a specific product. The churn rate must always be minimal. With any product, customer churn is inevitable when there are several solutions for a given issue. Customers typically leave a product when they experience any problems or are dissatisfied with the services provided. Typically, a time frame is used to measure the turnover rate. The main goals of any company should be to serve its clients and retaining existing customers. Retaining existing customers is equally important as gathering new clients. Predicting customer attrition is the most crucial factor when implementing a product from an industry. Managing customer turnover is one of the main issues facing organizations, especially those who offer subscription-based services. Customer churn, sometimes referred to as customer attrition, is the term used to describe losing customers as a result of changing tastes, poor CRM management, relocation, and other circumstances. Companies that can predict customer attrition with accuracy might target their most likely-to-leave clients with better services. Consequently, having a churn prediction model is essential in the modern digital economy. A company can make more money while still keeping up a high client retention rate.Managing customer turnover is one of the main issues facing organizations, especially those who offer subscription-based services. Also referred to as customer chur or customer attrition, is customer loss. Managing customer turnover is one of the main issues facing organizations, especially those who offer subscription-based services. Customer churn, sometimes referred to as customer attrition, is the term used to describe losing customers as a result of changing tastes, poor CRM management, relocation, and other circumstances. Companies that can predict customer attrition with accuracy might target their most likely-to-leave clients with better

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Role of AI in Sign Language Interpretation

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Abstract: The "Sign Language Translator and Gesture Recognition" system is a promising solution for communication challenges faced by mute or deaf individuals. Using affordable sensors, it captures hand gestures and translates them into readable text via an intelligent web interface. Achieving a recognition accuracy of 96%, the system effectively interprets 20 out of 26 letters. Recognizing the diversity of sign languages, it addresses variations in alphabets, semantics, and vocabularies. The wireless transmission to smartphones and TV screens enhances accessibility. Ongoing improvements should focus on expanding gesture recognition and adapting to evolving sign languages.

Index Term: Human-robot interaction, Mobile applications, Artificial Intelligence in Sign Language Interpretation, Gesture recognition, Sign Language Translator.

Introduction: Urban transportation challenges, like traffic congestion and traditional signal-controlled intersections, are being addressed through a new signal free navigation approach. Utilizing advanced technologies such as AI and machine learning, this innovative method optimizes traffic flow, reducing congestion and enhancing mobility. However, concerns about intersection management, safety, and vehicle coordination need exploration for effective implementation. Shifting focus, sign language, a complex visual-spatial language used by the deaf community, poses a communication barrier with the broader society. This project aims to bridge this gap, offering significant potential for social inclusion and improved access to services for the deaf community. From a technical standpoint, it presents exciting challenges in gesture recognition and language interpretation, pushing the boundaries of current capabilities.

New traffic navigation tech, using AI and machine learning, is tackling urban congestion without traditional signals. While promising, questions about safety and coordination arise. Shifting gears, a project aims to break communication barriers for the deaf using sign language. It not only enhances inclusion but also challenges tech limits in gesture recognition and language interpretation.

Applications: The application of Artificial Intelligence (AI) in Sign Language Interpretation has the potential to revolutionize communication accessibility for individuals with hearing impairments. Here are some key applications:

Real-Time Sign Language Translation Apps: Development of mobile applications that use AI to interpret and translate sign language gestures into written or spoken language in real-time, facilitating instant communication between deaf individuals and those who do not understand sign language.

Gesture Recognition Systems: Implementation of AI-powered gesture

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Fake Products Identification using Blockchain & QR Code

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Abstract: Counterfeiting is a major challenge in retail, addressed by methods like RFID, AI, ML, and QR codes, each with drawbacks such as code copying and high computational requirements. We propose using Blockchain to boost counterfeit detection. Our approach involves QR code-based supply chain tracking, secured by Blockchain's decentralization. Customers scan QR codes for detailed product history, ensuring authenticity. This aids manufacturers in tracking and prevents unauthorized diversions, reducing distribution costs and enhancing transparency. Despite adoption challenges, this Blockchain approach shows significant potential for curbing counterfeit products and improving supply chain efficiency and security.

Index Terms: Blockchain, QR codes, Counterfeiting, Artificial Intelligence

INTRODUCTION:

Product development carries risks like counterfeiting and duplication, posing threats to a company's reputation, revenue, and customer satisfaction. To address this, a proposed blockchain system efficiently identifies and tracks fake products, offering companies a seamless solution to counterfeiting concerns. The widespread issue of counterfeiting has inflicted substantial losses on manufacturers, impacting brand reputation and value. Blockchain technology mitigates this problem by ensuring secure and protected data storage in a distributed and decentralized database. The immutable nature of blockchain, with data linked in a chain, proves to be a game-changer in the battle against counterfeit products, providing companies with a robust defense. Blockchain operates through a series of steps to ensure the security and immutability of recorded data. The key steps in the functioning of blockchain are as follows:

Authentication:

Users are authenticated before a transaction can be added to the blockchain.

Authentication typically involves the use of a public key and a private key unique to each user.

Creation of a New Block:

Once authenticated, a new block is created to store transaction information.

The block is assigned a unique identifier called a hash, which is generated based on the block's content.

Distribution of the New Block:

The newly created block is distributed across every node (computer) in the network.

This ensures that all nodes have a copy of the latest transactions.

Verification and Addition of the Block:

Authorized nodes in the network verify the transaction by confirming that the user's public key matches the private key used for authorization.

If verification is successful, the transaction information is added to existing blocks in the blockchain.

The chaining mechanism secures the

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FUTURE OF 5G WIRELESS SYSTEM

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***Abstract*—Future 5G wireless networks will aspect new con- tests, as well as growing claims on network capacity to support a huge number of devices running applications necessitating high data rates and always-on connectivity; hugely and supportive of the emerging business models in the wireless network market demanding networks to be more open. Future 5G wireless networks' location, management, and operation will face new issues that need new solutions and altered strategies compared to those of existing wireless networks. The ability to supply service- customized networks to a wide range of services via integrated cloud reserves and wireless/wired network possessions—which several infrastructure suppliers and/or operators may offer—is one of the main goals of future 5G wireless networks.**

***Index Terms*—Keywords, Future, 5G, Wireless, Network Ca- pacity, Speed Improvements, Low-Latency, Internet of Things (IoT), Security Enhancements, Virtual Reality (VR), Connectiv- ity.**

I. Introduction

WRITE Fifth-generation mobile technology is called 5G technology. Beyond the impending 4G standards,
5G is the next significant stage of mobile telecommunication ethics. 5G technology is helping to facilitate electronic communications, documents, and manufacturing products. The buyer will search for a respectable package that includes all of the cutting-edge capabilities that a cell phone can offer as they grow more knowledgeable about mobile phone technology. Thus, the leading cell phone companies' constant quest for new technologies is what drives them to out-innovate their rivals. When 5G technology becomes widely used, it will effectively address the issues that the 4G prototype would have to deal with.

Although 5G is not owned by any one corporation or individual, several businesses in the mobile ecosystem are responsible for making 5G possible. The next wireless standard, 5G, is largely the result of the several initial technologies that Qualcomm invented and advanced the industry.

As the nation that first deployed 5G networks, South Korea is predicted to maintain its lead in the adoption of the technology; by 2025, 5G networks are likely to account for close to 60 percent of mobile contributions in the country.

According to a new analysis, Huawei Technology Co. has the most copyrights on the next 5G technology, proving the Chinese corporation will be compensated despite efforts by the Trump government to remove it from the supply chain.

Systems for wireless communication that use Orthogonal Frequency Division Multiplexing (OFDM) and have a large coverage area, a high amount of millimeter waves (10 mm to 1 mm), a frequency range of 30 GHz to 300 GHz, and the ability to send data at up to 2 km at a rate of 20 Mbps. The most effective way to combat the present spike in wireless Internet consumption is to use the millimeter-wave spectrum. These features can offer wireless applications for the World Wide Web (WWW).

What is 5G?
5G technology is revolutionary. By the end of 2018, the fifth generation, or 5G, of telecom networks began to outperform the competition and is expected to grow globally. Other than that, the rate of technological advancement is expected to unleash a vast 5G IoT (Internet of Things) ecosystem, where networks will be able to support billions of linked devices' communication needs by finding the ideal balance between cost, latency, and speed.

5G technology is driven by 8 specification requirements:

Fig. 1. 8 specification requirements

Up to 10Gbps data rate -10 to 100x speed development over 4G and 4.5G networks
- 1-millisecond latency
- 1000x bandwidth per unit area
- Up to 100x number of coupled devices per unit area

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SOCIAL MEDIA MARKETING: A CONCEPTUAL STUDY

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The modern business world and customer

Abstract—Over the past hundred years, the marketing sector

has undergone unbelievable changes. Marketing strategies, tools, and methods have evolved to an unprecedented degree. Markets in a traditional economy were constrained by the constraints of geography, time, and utility, and could only function in actual locations. The world's markets are now as small as a human palm, thanks to globalization, and we have access to them all. It is believed that social media, which initially served as a platform for personal communication, has developed into one that is valuable for businesses that are looking to remain current in the marketing and tool industries. Our goal in writing this piece is to draw attention to a major development in the marketing industry.

Index Terms—aKeywords, Social Media, Marketing, Facebook, Google+, Twitter.

I. INTRODUCTION

The foundations of learning, investigating,

arguing, and discussing are communication and interaction. They have played an essential role in defining our culture and lifestyle since the beginning of time. Rather than using direct methods like speaking or writing, they incorporate indirect modalities such as the performing and non-performing arts. Humans being characterized as sociable animals should thus come as no surprise. Conversely, both the means and the substance of communication have changed over time. From pigeon mail to postal letters, mobile phones, and now smartphones and social media, the evolution of communication has been remarkable. Notably, social media impacts not just how people engage but also their interactions. The importance of social media in our daily lives is becoming increasingly significant. Before starting the day, we make sure to check and update our social media profiles. We also make sure to close them down at the end of the day.

expectations have taken over. Knowing what other people think of us is crucial if we aspire to fit in with society at large. Social media and active participation in relevant groups are essential for businessmen to maintain their online image and reach and influence a larger audience. Social media marketing is crucial to expanding your business's reach and attracting more customers. India has 574 million internet users as of 2019. In terms of size, India's online market is second only to China's. By the end of 2020, experts predict that 639

million people in India will be regularly using the internet. The majority of Indian internet users access the web using mobile devices.

What Is Social Media Marketing?

Promoting one's website, goods, or services online allows one to reach far more people than was previously possible with more conventional forms of promotion. This is known as marketing through social media. Most importantly, social media prioritizes the collective over the individual. There are many different types and sizes of online communities where people talk to each other. Social media marketers must take full use of these groups to communicate with members about targeted product and service offers. Listening to the groups and establishing relationships with them as a corporate representative should be a component of your social media marketing plan.

II. OBJECTIVE OF THE STUDY

HISTORY OF SOCIAL MEDIA MARKETING:

Despite its current popularity, social networking has roots in early computing. Our current situation is the result of centuries of social media expansion. The first social media network was Usernets, launched in 1979. Facebook-Usernets merger takes time. Users can post to newsgroups via user networks.

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Image Caption Generator

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Abstract: The goal of an image caption generator is to identify the context of a picture and provide a natural language description—such as English—using principles from computer vision and natural language processing.The creation of an image description system could one day enable those who are blind or visually impaired to "see" the world more clearly. It has gained prominence recently and is now one of the most significant subjects in computer vision. Earlier techniques for creating picture descriptions combined data from the image by modeling it using statistical language models and employing static object class libraries. Aker and Gaizauskas suggest a technique for automatically labeling geotagged photos and utilize a dependency model to summarize several web documents with information about image locations. Predicting the most likely nouns, verbs, situations, and prepositions that make up the sentence yields the image description.

Index Terms: Caption Generator, Natural Language Processing (NLP), Aker, Gaizauskas, Markov Model, Image Prediction

Introduction: Our brains have the ability to annotate or classify any image that is shown to us. What about computers, though? How can a machine process an image and assign a highly precise and appropriate caption? Building a meaningful caption generator for a picture has been easier in recent years, thanks to advancements in computer vision and deep learning algorithms, the availability of relevant datasets, and AI models. A few years ago, this appeared fairly hard.

A developing industry worldwide is even caption generator, which is generating billions of dollars in revenue for numerous data annotation companies. We will now examine one such annotation tool that, with the use of datasets, may produce extremely pertinent descriptions for the image.

The purpose of an Image Caption Generator (ICG) is to evaluate visual content and produce descriptive textual captions using a combination of computer vision and natural language processing techniques.

With the use of this technology, the visual information found in photographs will be more easily interpreted in natural language. Through the application of deep learning models, ICGs are able to provide captions for a variety of images that are both contextually relevant and understandable by humans. This capability improves accessibility, content indexing, and user experiences across a number of industries, including social media, healthcare, education, and more.

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Self-Supervised Learning in Artificial Intelligence

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Abstract: Self-Supervised Learning (SSL) is a paradigm within artificial intelligence and machine learning that deviates from traditional supervised approaches by harnessing the inherent structure of unlabeled data. Instead of relying on external annotations, SSL tasks involve the model in generating its own supervisory signals through carefully designed objectives. Common self-supervised tasks include autoencoding, where models learn to reconstruct input data, contrastive learning, which encourages the model to distinguish between similar and dissimilar instances, and temporal order prediction for sequential data. SSL has proven to be effective in diverse domains, such as natural language processing, computer vision, and speech recognition. Leveraging large amounts of unlabeled data, SSL pre-training enables models to learn rich representations, leading to improved performance and generalization on downstream tasks with limited labeled data. This approach has garnered attention for its ability to exploit data abundance in real-world scenarios, offering promising avenues for advancing machine learning capabilities.

Index Terms: Self-Supervised Learning (SSL), Supervised Learning, Semi-Supervised Learning, Unsupervised Learning, Artificial Intelligence (AI).

Introduction: Self-Supervised Learning (SSL) represents a revolutionary approach in artificial intelligence and machine learning, steering away from the conventional reliance on labeled datasets. Unlike traditional supervised methods that require meticulously annotated data, SSL empowers models to autonomously generate their own supervisory signals.

This is achieved through the formulation of tasks that tap into the intrinsic relationships within unlabeled data. Notable SSL tasks include autoencoding, where models learn to reconstruct input data, and contrastive learning, which involves distinguishing between similar and dissimilar instances.

scenarios.

leverage abundant unlabeled data, making it particularly advantageous in real-world

This introduction sets the stage for exploring how SSL is transforming machine learning by enabling models to pre-train on diverse data sources, resulting in enhanced generalization and performance on subsequent tasks with limited labeled data.

Applications: Self-Supervised Learning (SSL) has found applications in various real-life scenarios across different domains. Some notable applications include:

Natural Language Processing (NLP): SSL has been used in pre-training language models on large text corpora without explicit annotations. Models, such as BERT (Bidirectional Encoder Representations

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DECENTRALIZED E-VOTING SYSTEM USING BLOCKCHAIN

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Abstract: This research paper proposes a decentralized electronic voting (e-voting) system using blockchain technology to address challenges in traditional voting systems. Leveraging blockchain's immutability, transparency, and decentralization, the system ensures secure and tamper-resistant voting. Smart contracts automate the process, while cryptographic techniques protect user privacy. The paper explores challenges and provides solutions, offering a promising solution to enhance election integrity and trust in the digital age.

Keywords: Blockchain, Decentralized, E-Voting, Cryptography,

Introduction: Elections are the cornerstone of democratic societies, serving as a fundamental mechanism for citizens to express their political will. However, traditional voting systems often face critical challenges such as fraud, lack of transparency, and security vulnerabilities. The rapid evolution of digital technologies presents an opportunity to address these issues and revolutionize the electoral process. This research introduces a decentralized electronic voting (e-voting) system built on blockchain technology, aiming to overcome the limitations of conventional methods and enhance the integrity and security of the voting process.

Blockchain, originally developed as the underlying technology for cryptocurrencies, offers a distributed and tamper-resistant ledger. Its core attributes, including immutability, transparency, and decentralization, make it an ideal candidate for transforming the way elections are conducted. By employing blockchain, the proposed e-voting system aims to establish a secure and trustworthy environment that mitigates the risks associated with centralized authorities, fraud, and manipulation.

The utilization of smart contracts, self-executing programs on the blockchain, plays a crucial role in automating various aspects of the voting process. These contracts can enforce voting rules, verify participant eligibility, and facilitate transparent and automated vote tallying. Moreover, cryptographic techniques, such as zero-knowledge proofs, ensure voter privacy by allowing individuals to prove their eligibility without disclosing their identity or voting choices.

This paper delves into the design, implementation, and potential benefits of the proposed decentralized e-voting system. It also examines existing blockchain-based e-voting implementations and analyzes relevant case studies to derive insights. Additionally, the research explores challenges inherent in the adoption of such systems, such as scalability, user accessibility, and legal considerations, proposing solutions to mitigate these obstacles.

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Analysis of Tools and Techniques in cryptography

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Abstract: This paper offers a comprehensive analysis of cryptographic tools and approaches, including both contemporary algorithms and classical approaches. It examines how encryption has changed over time and contrasts symmetric and public-key methods. Additionally, the study explores hash functions and highlights their significance for data integrity. The potential of cutting-edge methods like homomorphic encryption and zero-knowledge proofs for use in computations that protect privacy is investigated. The effects of quantum computing, key management, and the real-world application of cryptographic tools are discussed. The paper also covers the regulatory aspects and the human factor in cryptography, providing a thorough overview for scholars, practitioners, and policymakers.

Keywords: Homomorphic encryption, Hash functions, Cryptography,

Introduction: Cryptography, the art and science of securing communication and information, has become an indispensable aspect of our digital world. As the volume and sensitivity of digital data continue to surge, the need for robust cryptographic tools and techniques has never been more critical. This paper provides a comprehensive exploration and analysis of the diverse array of cryptographic methods, ranging from historical approaches to cutting-edge technologies.

The introduction begins by highlighting the fundamental role of cryptography in ensuring the confidentiality, integrity, and authenticity of data in various digital transactions and communications. It underscores the evolution of cryptographic methods from ancient times to the present digital age, emphasizing the dynamic nature of the field.

The subsequent sections will delve into classical cryptographic techniques, shedding light on their historical significance and paving the way for an understanding of their modern counterparts. The evolution from substitution ciphers and transposition techniques to sophisticated symmetric and public-key encryption algorithms will be discussed, with an emphasis on the trade-offs between efficiency and security.

The study will examine how cryptographic hash functions, in addition to encryption, are used to confirm data integrity and guarantee secure communication. Their uses in integrity verification, password storage, and digital signatures will receive special consideration.

Subsequently, the research will tackle sophisticated cryptographic approaches like homomorphic encryption, zero-knowledge proofs, and secure multi-party computation, investigating the ways in which these techniques tackle

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An Overview Of : Blockchain Technology

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Abstract:-
Bitcoin's underlying generation, blockchain, has drawn plenty of attention these days. As an unchangeable ledger, blockchain allows decentralized transaction processing. Blockchain-based totally packages have become an increasing number of normal, spanning a wide range of industries including monetary offerings, net of things (IoT)and many others . but there are still a number of troubles with blockchain technology to be resolved, like scalability and security issues. an intensive creation to blockchain era is supplied on this paper. We first gift an outline of blockchain structure after which we evaluate some common consensus strategies throughout diverse blockchains.
Keywords:- Blockchain Technology, Architecture, Decentralisation, consensus algorithms,
Applications , Future Scope .

Introduction:-
ransparent records sharing inside a enterprise community is made feasible via blockchain generation, an more desirable database method. facts is saved in blocks within a blockchain database, which might be linked by links. Blockchain is a probable statistics shape that includes an increasing listing of person information blocks. The information blocks are related collectively; consequently, they cannot modified or withdrawn..

The fundamental technology of BitCoin, a digital cryptocurrency, is blockchain designated database of all finished transactions and online activities that have been distributed across participating events was first made available in 2008 along with the white paper booklet "BitCoin: A peer-to-peer electronic cash gadget" with the aid of an man or woman or organization of people going by using the call "Satoshi Nakamoto".

Blockchain Technology :
Transactions are recorded in a disbursed digital ledger across the community, making it impervious to corruption. something precious, such as vehicles and actual property, can be documented as a transaction on a blockchain.

How does Blockchain technology Works?
Bitcoin is one of the most important uses of Blockchain . A cryptocurrency called Bitcoin is utilised for on line asset exchanges. Bitcoin permits parties to conduct transactions over the net without relying on third events the use of cryptographic verification. Every transaction is safeguarded through a digital signature.

client contributes to the propagation of transactions onto the Blockchain and their validation. a

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A research on Machine learning algorithms and Development.

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Abstract:-

This article examines the three basic types of machine learning: supervised, unsupervised, and reinforcement learning. Popular machine learning techniques including boosting and bagging, BP, artificial neural networks, random forests, decision trees, and SVM algorithms are all studied in it. The objective is to accelerate the pace of popularization of machine learning and increase public awareness of it by developing theoretical frameworks, improving the capacity for autonomous learning, integrating diverse digital technologies, and promoting tailored, personalized services.

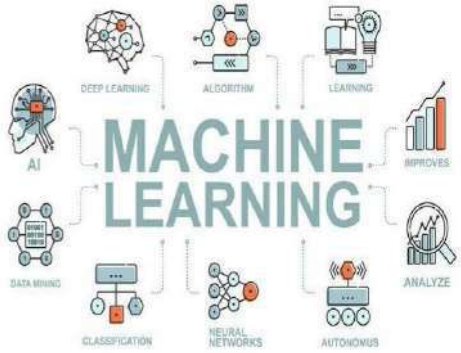
Keywords:- Machine learning , Algorithms, Classification and Development.

Introduction:-

Artificial intelligence has also opened up new development opportunities due to the rapid advances in science and technology. Because of the speed at which science and technology are developing, artificial intelligence has also created new avenues for development. Theoretical knowledge from multiple disciplines, such as statistics and algorithmic complexity, is incorporated into computer-based machine technology, By properly analyzing machine learning algorithms, it offers direction for future research and development, increasing the practicality and usefulness of these algorithms for the industry's economic expansion.

What is Machine learning: [1]

Machine learning is the use of computers to analyze data. Machine learning is a subset of artificial intelligence. Machine learning is the process of learning from data, recognizing patterns, and making decisions without the need for human intervention.



Semi-Supervised Learning

A machine learning technique called semi-supervised learning uses both labelled and unlabelled data because it operates in

[1]

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Super Resolution Towards License Plate Recognition

Kalyani Kashinath Thakur Guide by Prof.Ashwini Lad

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ABSTRACT

Using deep mastering methodologies and the extend - ed the accessibility of instruction statistics have resulted in main advances within the domain of registration code acknowledgment in recent years. Nevertheless, license plates from footage of surveillance captured at a poor resolution photos stays tough. To get around this problem, we recommend a unmarried-photograph exquisite decision (SISR) technique that merges focus as well as rectifier units. To improve the Finding architectural and qualitative differences elements at a low magnification snap shots. Our method employs layers of sub-pixel inversion (additionally named after Pixel Shuffle) and a feature of loss that extracts functions the usage of an Optical individual reputation (OCR) version. We skilled the proposed structure using synthetic pics generated by way of applying excessive Superior clarity number plates via Gaussian distortion photographs from openly accessible databases, observed via using bicuspid down sampling. Consequently, its SSIM (Structural Similarity Index measure) of the generated photos is much a value lower than the 0.10 threshold. Its findings display given that ours method for reestablishing those minimal- decision artificialized pics surpasses others in both quantitative and qualitative evaluations. As a end result, the SSIM (Structural Similarity Index measure) of the generated pix is much beneath the 0.10 criterion. The conclusion that we draw. Findings monitor that our method in order to redevelop these weak decision utilized pix surpasses others in both numerical and symbolic terms evaluations.

Keywords: Superior resolution, PixelShuffle, and the reconstruction

INTRODUCTION

Amazing-decision (SR) is a essential technique that improves photograph and video pleasant through boosting decision, allowing the extraction for sensitive features as well as reduced-resolution visuals photos in order to provide enhanced decision equivalents. Its significance has extended in domain names in which SR is widely utilized, around SR techniques possess enabled the together with scientific imaging and surveillance. Current advances during interpol primarily based, deep and largely centered example studying built enhancement of LR pictures and motion pictures in previously unthinkable ways. That is specifically giant in surveillance applications including license plate detection (LPR), face and object detection, wherein improving photo satisfactory is critical but difficult.

Moreover, it's far greatest to save HR pictures within LR layout then retrieve them as wanted. SR refers to a difficult hassle further remedy due to the fact it's far unwell-posed, and there can be several answers inside the HR space. The problem turns into extra difficult as the upscale component will increase, because LR images can also lack the statistics needed to rebuild the preferred details. Single-photo awesome-decision (SISR) ,Multi-picture brilliant decision (MISR), and Video extraordinary- resolution (VSR) methods are the 3 number one classes of SR strategies.

LITERATURE REVIEW

Create a loss function that takes into account nice measures and estimations from an earlier skilled version. That could let us concentrate upon rebuilding essential elements within plate numbers as a way towards boom precision in identification. Create a module for encrypting that highlights key factors inside the license plate picture the use of an vehicle encoder using stages of convolution that are smaller than a pixel. This module is going to permit it to improve the photo gratitude and also fine. The authors located the troubles that took place throughout photo capture. The detection of a automobile registration code from an photo is a complex venture in and of itself due to the fact the photograph is captured with noise. The application necessitates powerful and generalized registration code detection techniques in an effort to recall complex scenarios. They captured an picture with a static digital camera. The proposed approach may be used to come across license plates in every body of a video collection, partly come across license plates,

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Vehicle Speed Detection Using Open cv Python

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ABSTRACT

The developing number of on-street motors has placed a strain on avenue capacity, making traffic management harder and contributing to issues like as congestion, crashes, and air pollution, amongst others. Those problems have a splendid effect on our daily lifestyles. To mitigate the effects, a sturdy, healthy, and effective site visitors management machine is required. Apart from those vehicle site visitors problems, positive statistical traits, such as the common range of automobiles on the street at any given moment and the country of congestion, may be evaluated to provide a few steering for toll road control.

INTRODUCTION

These days, someone have to watch all site visitors; it may take a huge number of human beings to apprehend any peculiar behavior, and the person ought to search all sources to discover a specific event. Now take into account the subsequent. If the gadget could screen the activity and record again to us. Just like a traffic management device, the system routinely video display units site visitors. This technology can store plenty of manpower and make it less complicated to track vehicles. This task is much like this type of circumstance. Wherein site visitors is handled through the laptop itself. This device is powerful for tracking traffic and vehicle pace.

LITERATURE REVIEW

This paper proposes a sincere answer for building a visitors digicam training module capable of continually tracking every car within the digital camera's course and determining its pace. A season structure for numerous automobile following is hired, with assessments decided on using the Kalman channel and the Hungarian algorithm. A pace estimate framework is proposed that is satisfactorily flexible to address camera feed from any edge with out a recreation plan and

Digital camera hooked up at any occasion peak of 7m. The device has tried pc-based strategies inside the identical manner as Avowed circumstances and pace measurements were acquired, with the most splendid goof being under 3kmph.automobile pace detection approach was investigated in video surveillance. This research demonstrates every other speed Detection camera device (SDCS) that might be used as a radar opportunity. SDCS employs a few photograph preparation frameworks on video streams in on the web – received from a unmarried digicam – or pulled lower back mode, making SDCS suitable for figuring out the velocity of moving articles whilst maintaining a critical division from traditional radar difficulties. SDCS is a advanced preference over conventional radars in terms of close precision. SDCS frameworks can be divided into four awesome tiers, the primary of that is item exposure sorting.

EXISTING SYSTEM

In recent decades, the sector of photograph management has expanded dramatically. This has been taken away in two methods: 1) The vast use of images in many packages, collectively with 2) enhancements inside the length, speed, and cost of Manuscripts. The availability of computers and associated sign orchestrating advancements. Image control has made widespread development in sensible, current, space, and authorities programs. Diverse systems can now get replaced by way of photograph-based alternate systems that outperform preceding structures. The SDCS system is one of the systems able to affirming normal radars invalid. This

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Modeling Methods Complex Computer Systems

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ABSTRACT

The study addresses computer system modeling techniques that can be used to create an algorithm that assesses the observed object's current information security status and can identify dangerous system states in real systems by analyzing the observed parameter values. The authors outline the current issues with automated information security systems and point out the flaws and restrictions that result in these systems' low effectiveness and high ownership costs. In order to determine whether the current state of a genuine system falls into one of the classes ("safe" or "unsafe"), the paper gives an outline of the techniques that may be used to construct an algorithm for analyzing the parameters of an information system. Specifically, the reduction approach and agent-based modeling are provided, both of which are based on multi-agent systems. The reduction method is examined using cluster analysis as an example. Kohonen self-organizing maps are best suited for multidimensional data. A quick explanation of the approaches is provided for complicated modeling techniques (based on multi-agent systems and agent-based), along with an introduction to their fundamental ideas (agents and their types and properties).

INTRODUCTION

Artificial intelligence (AI) is defined as software that can analyze the state of an information system, identify events occurring inside it, and make the appropriate decisions on its own in the field of information security (IS). Because artificial intelligence is adept at spotting trends and abnormalities, it may be used as a tool to keep computer networks safe. The numerous drawbacks and restrictions of contemporary information security systems (ISMS) contribute to their low effectiveness or high ownership costs.

The ensuing deficiencies are discernible:

- Little automation of the procedures involved in identifying and handling information security problems. Human involvement in IS incident management procedures is necessary for modern ISMS at every stage of the process' life cycle. While some of these processes can be partially automated by hardware and software solutions currently on the market, no system can do these jobs entirely automatically.
- The technical solutions used to detect or address information security incidents are not easily replicable. Such solutions need specific configurations that consider different aspects of the thing that is secured.

These concerns stem from the fact that current solutions either employ a signature-based strategy (with rigorous guidelines for

These concerns stem from the fact that current solutions either employ a signature-based

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Misuse of AI and Its Consequences

Aditya.A.Hadap Guide by Prof. Sadiq Shaikh PG Student, Pillai HOC College Professor, Pillai HOC College Of Arts, Science & Commerce, Of Arts, Science & Commerce, Rasayani. Rasayani.

Abstract: Everyone's life is impacted by the technological age, either favourably or unfavourably. Artificial Intelligence is one of the newest technologies, with both benefits and drawbacks. AI systems can have several negative effects in addition to occasionally becoming deadly e.g. One possible abuse is speech synthesis or voice cloning, in which artificial intelligence mimics a human voice. Hence, The usage of AI brings up ethical problems including accountability, bias and discrimination, privacy and monitoring.

Keywords: *Artificial Intelligence, Machine Learning, Computer, Robotics.*

Introduction: Artificial intelligence (AI) is the study of highly intelligent robots that are capable of carrying out activities like language interpretation and decision-making, which frequently call for human intelligence. It is a branch of computer science that focuses on developing and studying intelligent machines. We can refer to these devices as AIs. AI has been applied in a few areas, including healthcare, transportation, and entertainment etc. For instance, AI-powered devices can help doctors diagnose various illnesses or it can be used to make efficient use of transit routes. Artificial intelligence (AI) may also be used to build intelligent chatbots and virtual assistants that can converse with people and provide customised guidance. AI will continue to significantly alter society and change how we work and live. But there are also concerns about the possible negative effects of AI, such the creation of autonomous weaponry, biased decision-making, and job displacement. Therefore, to guarantee that AI development serves society as a whole, it has to be closely supervised and regulated. AI is a technology that consists of knowledge from different subfields which range from computer vision to natural language processing.

Subfields of AI

Literature Survey: *Anant Manish Singh , Wasif Bilal Haju2 (2022), Artificial Intelligence* demonstrated that artificial intelligence (AI) is computer knowledge with human characteristics; still, these machines and computers support environmental growth and act logically to assist people.
I*ntelligence of Things: Opportunities & Challenges Hany F. Atlam, Robert J. Walters , and Gary B. Wills* AI creates innovative solutions by using distributed or centralised intelligence to analyse,

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Research on Book Recommendation System using Collaborative Filtering

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Abstract: A recommendation system functions by discerning and proposing items to users predicated upon their personal predilections, inclinations, and assessments. The primary objective of such systems lies in the facilitation of user decision-making processes, thereby augmenting convenience and efficiency within their lives. Concurrently, amidst a societal landscape wherein the act of reading confers manifold benefits upon both individual cognition and the collective cultural fabric, empirical investigations underscore a concerning decline in literary engagement, particularly among younger demographics. To mitigate this trend, the implementation of a sophisticated book recommendation system emerges as a salient solution, wherein readers are guided towards literary selections tailored to their unique tastes and preferences. By harnessing the power of expansive datasets and leveraging advanced machine learning methodologies, individuals can navigate through a vast corpus of literary works with discernment, ensuring an optimal match between their interests and the wealth of available reading material.

Keywords: Recommendation System, Reading, Datasets, Machine Learning.

Introduction: Hundreds of different businesses, including online shopping, music, and movies, employ recommendation methods. Put simply, a recommendation system is any program that automatically recommends information to users and readers of websites. These systems produce suggestions for consumers based on a sophisticated algorithm that is always evolving. Not only has machine learning improved recommendation systems, but it also presents many opportunities to increase system performance. It's evident that recommendation engines have a startlingly big influence on the content that users interact with on a regular basis. Taking all factors into consideration, our meticulously designed system harnesses the sophisticated collaborative filtering technique to curate personalized book recommendations spanning diverse age demographics. This intricate mechanism not only alleviates the burden of manual browsing during library visits but also operates seamlessly, offering a dependable and economically efficient solution to users.

Literature Survey: *Okon et.al. (2018)* suggested a model that uses the Object Oriented Analysis and Design Methodology (OOADM), a fast sort algorithm, and an improved CF algorithm to create suggestions for purchasers. Scalability was guaranteed by putting Firebase SQL into practice. According to the assessment measures, this system functioned successfully.

Kurmashov et.al. (2015) utilised an online poll to assess the system and provided internet-based suggestions to readers based on a Pearson correlation coefficient-based CF.

Ayub et.al. (2018) suggested a Jaccard-like similarity algorithm to find related things

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Chatbot For Banking System :

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Abstract:-

The advent of artificial intelligence has revolutionized various sectors, and the banking industry is no exception. Chatbots have emerged as a prominent tool for enhancing customer service, streamlining operations, and improving overall efficiency in banking systems. This abstract explores the development and implementation of a chatbot tailored specifically for the banking sector.

The proposed chatbot for the banking system aims to provide customers with a seamless and personalized banking experience. Leveraging natural language processing (NLP) and machine learning algorithms, the chatbot will be capable of understanding and responding to customer queries, facilitating transactions, and offering relevant financial advice.

Keywords:- ai

Applications , Future Scope .

Introduction:-

Transparent information sharing within a company network is made possible by

Introduction:

In today's digital age, the banking sector is undergoing a profound transformation driven by the integration of advanced technologies to streamline operations and enhance customer experiences. One such technology that has gained significant traction in recent years is the chatbot. Chatbots, powered by artificial intelligence (AI) and natural language processing (NLP), offer a promising solution for addressing customer queries, facilitating transactions, and delivering personalized banking services round-the-clock.

This introduction sets the stage for exploring the development and implementation of a chatbot tailored specifically for the banking industry. As customer expectations continue to evolve, driven by advancements in digitalization and automation, banks are increasingly turning to chatbots to provide seamless and efficient banking experiences.

In this abstract, we delve into the key features, benefits, and implications of deploying a chatbot within a banking system. By leveraging AI technologies, banks can revolutionize customer interactions, improve operational efficiency, and gain a competitive edge in the dynamic landscape of modern banking.

Through a comprehensive analysis of the proposed chatbot's functionalities and its potential impact on the banking ecosystem, this abstract aims to shed light on the transformative power of AI-driven chatbots in redefining the future of banking services.

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A research on Deep learning algorithms and Development.

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Abstract:-

Deep learning has become a game-changing technique in a number of industries, including banking, healthcare, natural language processing, and computer vision. This paper presents a comprehensive review of recent research advancements in deep learning algorithms and their development. We start by providing an overview of deep learning, discussing its fundamental concepts and architectures. Next, we explore the most recent developments in deep learning techniques, such as transformer models, generative adversarial networks (GANs), recurrent neural networks (RNNs), and convolutional neural networks (CNNs). We analyze the strengths and weaknesses of each algorithm and highlight their applications in different domains. Moreover, we explore recent developments in regularization techniques, optimization algorithms, and model interpretability methods to enhance the performance and robustness of deep learning models. Additionally, we discuss challenges and future directions in deep learning research, such as addressing data scarcity, improving model generalization, and ensuring ethical AI deployment.

What is Deep Learning:

A subset of machine learning called deep learning entails the use of artificial neural networks to learn and make predictions from large volumes of data. It is called "deep" learning because it involves training neural networks with multiple layers, allowing them to learn

hierarchical representations of data.

generalization, and ensuring ethical DL deployment.

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Face Detection Attendance System using Machine Learning.

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ABSTRACT

The primary goal of this project is to develop a facial recognition-based attendance monitoring system for educational institutions in order to improve and modernise the existing system and make it more effective and efficient than it was in the pastThe prior, antiquated method had several uncertainties, which resulted in inaccurate and inefficient attendance recording. When the authority is unable to enforce the regulations that were in place under the previous system, numerous issues occur. The face recognition system will be the technology underlying this. One of the natural characteristics that can be used to identify a person specifically is their face. Because there is little chance of a face deviating or being replicated, it is utilised to trace identification. The goal of this project is to construct face databases that will feed information into the recognizer algorithm. Then, in order to determine identity, faces will be compared to the database during the attendance-taking session. Upon identification, the attendance of that person will be automatically recorded, with the relevant data being stored in an Excel spreadsheet.

Keywords- Face Detection, Face Recognition, OpenCV, Tkinter etc

Ⅰ. INTRODUCTION

In any organisation, punctuality is essential. As a result, keeping an attendance log is crucial. The problem arises when attendance needs to be manually recorded, which is laborious and time-consuming. Thus, an automatic attendance system can handle this kind of issue.

There are essentially two types of systems:

1) The system of manual attendance (MAS)

2) The AAS (Automated Attendance System)

Finger prints are used in a biometric approach by one AAS system. Although this approach is automatic and more advanced than previous approaches, it is not as time- or hygienic-efficient as one would like. Nevertheless, the biometric features of the face are utilised to remedy this issue. Our initiatives centre on characteristics of the face, like the ears, nose, and so forth.

We used a method known as Histogram of Oriented Gradients (HOG), which was created in 2005, for face detection. With the help of a straightforward linear SVM classifier, the person's name is determined. The only thing left to do is train a classifier to identify which known person best matches the measurements from a new test image. The person's

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An Overview of the Green 6G Network: Technology and Architecture.

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ABSTRACT

Even though 5G is starting to be commercialised globally, research centres are starting to look beyond the technology, and it's expected that 6G will evolve into green networks with superior QoS and efficient use of energy. The current state of smartphone network engineering is not up to the standards which future technologies will require. We envision 6G witnessing an unprecedented surge and merging traditional lowland mobile networks with emerging space, aerial, and underwater networks to allow any place, anytime network connection. This report presents a comprehensive survey of wireless communications progress up to 6G wireless networks. This assessment primarily focuses on the significant alterations to architecture that come with 6G networks, which stand out for their expanded 3D coverage, ubiquitous AI, and enhanced networking protocol base. Our work seeks to offer insightful recommendations for further green 6G research.[1]

Keywords:- Vision, Requirements, And Application Scenario, Architecture, Comparison.

Ⅰ. INTRODUCTION

2019 saw the start of the first commercial deployment of 5G wireless networks after the first complete set of 5G specifications was completed. The introduction of 5G wireless networks heralds the arrival of a true digital society by offering significant improvements over previous generations in the areas of latency, data throughput, movement, and the sheer amount of connected devices[1]. According to historical data on smartphone growth, it takes approximately ten years from the start of idea exploration to the commercial deployment, and after that, the innovation is used for at least ten more years. In other words, the next generation of mobile networks starts concept research at the same time that the preceding generation enters the commercial phase. Since 5G is only beginning to be commercialised, now is an ideal time to start researching 5G's replacement.

The governments of the United States and Germany have started studying terahertz based 6G mobile networks, while the United Kingdom has invested in certain promising 6G technologies, such as quantum technology. China's Minister of Industry and Information Technology officially said that the nation has concentrated on developing 6G. It is anticipated that 5G will fulfil these demands and eventually reach its limits in around ten years ,the main aim of 6G networks will be:

- Incredibly fast data rates (up to 1 Tbps) and extremely low latency.
- High energy efficiency for devices with limited resources.
- Widespread worldwide network coverage.
- Reliable and knowledgeable network-wide connectivity.

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Research Paper : NFC and RFID Technologies importance in Our Daily Lives

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Abstract— This study examines how Near Field Commu nication (NFC) and Radio-Frequency Identification (RFID) technology affect everyday activities such as tracking packages,
contactless payments, and key cards. It talks about difficulties, advancements, and upcoming changes.

I. INTRODUCTION

The best way to define NFC is as an RFID subset. NFC devices function at 13.56 MHz, which is the same frequency as high-frequency RFID tags and scanners. However, NFC does not have a range of 25 to 100 meters like RFID tags and devices do. Rather, NFC makes use of its radio frequency's short read range constraints. NFC is now the standard for safe communication between consumer electronics like smartphones because it requires the devices to be placed within a few centimeters of one another.

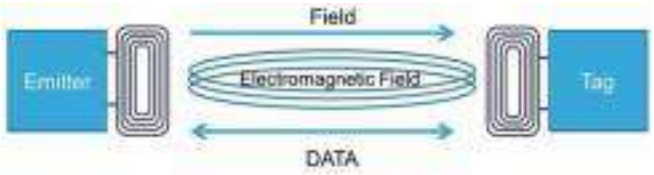
RFID uses electromagnetic waves to track and identify tags that are affixed to things. At the very least, RFID needs a tag, a reader, and an antenna in order to uniquely identify objects via radio waves. RFID tags have an antenna and a memory chip that store data; an RFID reader is required to view the data.

Devices may exchange data wirelessly thanks to NFC technology. As a result, it's utilised to let people link electronic devices with a touch, share digital content, and carry out safe transactions.

RFID is significant because it enables computers to gather data automatically and notify management when something is not proceeding as planned.

1. NFC Technology

- Range: 4 – 6 cm
- Storage Capacity: between 96 and 512 bytes
- Power Required: less than 15 mA



Near Field Communication (NFC)

2. RFID Technology

- Range: 4 – 6 cm
- Storage Capacity: Less than 2 KB
- Power Required: less than 15 mA

Radio Frequency Indentification (RFID)

II. HISTORY AND DEVELOPMENT

Sony and Philips originally created Near Field Commu nication (NFC) technology in the late 1980s to allow music files to be transferred between devices.

It is believed that RFID, the technology that underpins Near Field Communication (NFC), was developed during World War II. Leon Theremin's ground-breaking electrical musical instrument was one of the ancestors of this technol ogy. Because the instrument's waves are produced at a static frequency, they can be played without any physical contact.

III. APPLICATIONS

A. Contactless payment systems

Contactless payments using RFID and NFC have many benefits, including speed and ease of use—all it takes is tap ping your device against a terminal to finish the transaction.

B. Inventory management

It is possible to avoid overstocking or understocking a product or component by using RFID and NFC tagging. By installing tag-readers at high-risk locations,

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Importance of Type-C USB

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Abstract: This abstract highlights the paramount importance of Type-C connectivity over USB 3.0 and Lightning cables. Type-C's reversible design, faster data transfer speeds, and higher power delivery capabilities distinguish it from its predecessors. Its universality across devices and support for multiple functionalities such as video output and audio transmission further cement its significance. As the standard connector for modern devices, Type-C enhances user experience, simplifies connectivity, and fosters a future-proof ecosystem.

INTRODUCTION

In the ever-evolving world of technology, the manner in which we connect our devices has undergone significant transformations. From the bulky and cumbersome connectors of the past to the sleek and versatile options available today, the quest for efficient connectivity solutions has been relentless. USB 3.0 and Lightning cables have long been the stalwarts of device interconnectivity, each offering its own set of advantages and limitations. However, the emergence of Type-C connectivity has ushered in a new era, promising a plethora of enhancements that transcend the capabilities of its predecessors.

USB 3.0, while revolutionary in its time, has faced challenges related to its asymmetrical design and limited power delivery capabilities. Similarly, Lightning cables, although proprietary and popular among Apple devices, have encountered compatibility issues and are restricted to a single ecosystem. These shortcomings have fueled the demand for a universal, high-speed, and versatile connector that can address the evolving needs of consumers across different platforms.

Enter Type-C connectivity, a paradigm shift in the world of device interconnectivity. With its reversible design, blazing-fast data transfer speeds, and robust power delivery capabilities, Type-C has swiftly established itself as the connector of choice for a wide range of devices. Its universality across various manufacturers and ecosystems, coupled with its ability to support multiple functionalities beyond mere data transfer, has propelled Type-C to the forefront of technological innovation.

As we delve deeper into the importance of Type-C connectivity compared to USB 3.0 and Lightning cables, it becomes evident that Type-C not only addresses the limitations of its predecessors but also sets new standards for efficiency, versatility, and user experience. This introduction sets the stage for a comprehensive exploration of the transformative capabilities of Type-C connectivity in modern technology.

Fig (a) USB-A

The standard, universal connector found on virtually every desktop PC and older laptops, as well as TVs, game consoles and media players. Although USB 3.0 Type-A (blue) connectors have more internal pins, the form factor is the same, so it can operate in any Type A port, even USB 1.1. Data transfer, however, will be at the speed of the older generation.

Fig (b) USB-C

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AN OVERVIEW ON GENERATIVE AI AT SCALE WITH EDGE - CLOUD COMPUTING

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Abstract - Generative artificial intelligence (GenAI) is a unique subset of AI that produces content similar to human-created material. The swift advancement of GenAI technology has led to a vast increase in online data, presenting new hurdles for existing computing and communication infrastructures. GenAI services currently operate within conventional cloud computing frameworks, necessitated by their high computational demands. Nonetheless, these services often face delays due to data transfer and overwhelming request volumes. In contrast, edge-cloud computing offers both substantial computing power and reduced latency by synergizing edge devices with cloud resources. Consequently, there is growing interest in developing large-scale GenAI systems utilizing the edge-cloud computing approach. This article examines recent progress in both. We theen analyze 2 representative Gen-AI applicationss to identify the systamatic obstacles to scaling them up within edge-cloud systems. Lastly, we outline key design considerations for the extensive training and deployment of GenAI systems, highlighting potential avenues for future research.

Key Words - Artificial intelligence, content created by AI, edge-cloud architecture, distributed computing, streamlined models, virtual universe, and AI-enabled devices.

INTRODUCTION

Generative Artificial Intelligence (GenAI) stands at the forefront of innovation, aiming to realize Artificial General Intelligence (AGI) through the fusion of ml learning and creative content evolution. Operating within distinct realm of intelligence, GenAI autonomously produces content across various mediums, mirroring human creations in images, audio, text, and even 3D objects. Its rapid evolution has birthed diverse applications like text-to-image generation, text-to-speech synthesis, chatbots, and AI - driven virtual reality experiences, all widely embraced by users. However, the computational demands of most GenAI models, coupled with their substantial size, necessitate robust centralized infrastructure, typically in the form of cloud servers, to cater to user requests. Consequently, during peak traffic periods, users may encounter significant latency issues. In response to this challenge, the surge in mobile device usage and the proliferation of data intensive applications have catalyzed the development of edge-cloud computing solutions. These solutions leverage the computational prowess of cloud servers and the efficient data management and communication capabilities of edged server, offering promising avenues for consumer-centric AI applications and edge intelligence.

LITERATURE

Following the debut of ChatGPT in late 2022, enthusiasm for GenAI surged, leading to the publication of several survey and overview articles on the topic [6, 100, 107]. While some explore the application of GenAI models in

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VIRTUAL MOUSE USING HAND GESTURE

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Abstract - Advancements in hand tracking and gesture detection have created opportunities as well as difficulties. Examine a handful of these choices while discussing the difficulties and fascinating prospects for virtual reality and user interaction in the future. The purpose of this research is to lessen the dependence on technology for computer operation and interpersonal relationships in light of the widespread prevalence of COVID-19. These findings will spur more investigation and ultimately lend credence to the use of virtual environments. There are no such limitations in the suggested age, and gesture recognition could be utilized in its place. Throughout this trip, there can be opportunities to click and drag objects using different hand gestures. The input method for the proposed idea just needs a camera. OpenCV and Python are two languages.

Key Words - Gesture control, Media pipe, OpenCV.

INTRODUCTION

Users can still use a virtual mouse to control their computers even in the absence of a physical mouse. Given that it makes use of a regular webcam, it may be categorized as hardware. It is possible to utilize physical mouse and computer keyboard in conjunction with a virtual mouse. A camera-operated virtual mouse uses a variety of image processing methods. Mouse clicks are translated from user hand motions. The default setting on a webcam is to continuously take images. Security software with facial recognition capabilities has recently been available for PCs with cameras. This can be accomplished by using the webcam's vision-based CC feature, which does away with the need for keyboards and computer mice. There are numerous other HCI uses for a camera, such as motion controllers, databases, and sign language. Two recent examples of HCI gaming technology developments are the Microsoft Kinect and Nintendo Wii. The enjoyment and engagement factor of playing video games has increased thanks to improved gaming technology. The Nintendo Wii, which sold more than 50 million units in its first year, is a prime example of how motion controllers are revolutionizing gaming. Hand gestures, which are very natural and efficient for one-on-one computer contact, provide a Natural User Interface (NUI). The ability to move the cursor with hand gestures has been thoroughly researched. There are new tools and techniques at our disposal. The capacity to distinguish between sign languages and HCI renders hand gesture detection indispensable.

LITERATURE

The current virtual mouse control system may be enhanced by incorporating a hand recognition system to operate the mouse pointer, left and right clicks, drag, and other essential mouse operations. The days of using hand recognition technology are over. Numerous hand recognition systems exist; however, the one they employed is static hand recognition, which identifies only hand shapes and assigns an action to each shape. There is a great deal of confusion with this system, which is restricted to a few defined actions.

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A CRITICAL EXAMINATION OF ETHICS OF AI

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ABSTRACT

Large language models like ChatGPT, which are examples of artificial intelligence (AI) systems, offer opportunities and problems for academic peer review. AI has the potential to increase productivity by resolving problems such as protracted publication schedules. But its incorporation also brings up moral and sociological issues that can compromise the impartiality of the peer review procedure and its outcomes. These worries—which include biases, potential abuse, and a lack of transparency—are made worse by the credibility issues that human-operated peer review systems already face. The use of AI in peer review is becoming more popular, but conversations about it have mostly concentrated on plagiarism and authorship in scholarly works, ignoring the larger epistemological, social, cultural, and societal issues that are intrinsic to the process. AI-driven peer review's legitimacy rests on its compliance with the scientific ethos, which requires

Introduction

As a fundamental component of society knowledge, science is by its very nature a socio-institutional creation. According to this theory, academic peer review processes have a significant impact on the governance and assessment of knowledge in science communication (Polanyi, 1962). Information technology such as computers and the Internet have enabled a digital revolution in scholarly peer review during the last fifty years (Vicente-Saez et al., 2021). Currently, artificial intelligence (AI) is being incorporated into related activities to improve and automate a variety of decisions, from filtering out low-quality or fraudulent studies to selecting reviewers (Heaven, 2018; Jana, 2019; Checco et al., 2021). AI is defined as technological systems capable of executing tasks with intelligent, human-like behavior through computational algorithms, rules, and logic (Russell & Norvig, 2021).
Natural language processors (NLPs), large language models (LLMs), and other generative AI technologies—like ChatGPT 1—have recently advanced to the point where they have the potential to further revolutionize the peer review system, bringing with them previously unheard-of concerns and challenges as well as new opportunities (van Dis et al., 2023). Because of the profound ramifications of these technologies, prominent specialists in artificial intelligence have called for a halt to research and development in the field. In light of this, our study is situated within the larger framework of increasing awareness of the potential benefits and drawbacks of AI-driven peer review.
In addition to increasing productivity, AI and algorithmic decision-making can address some of the current issues in peer review, such as protracted decision and publication delays (Björk & Solomon, 2013). Broader concerns have also been raised regarding the societal and cultural ramifications of AI and algorithmic decision-making in scholarly endeavors, even though technical considerations like usability, accuracy, precision, and efficiency have

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HUMAN POSTURE DETECTION USING AI

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ABSTRACT

Human posture detection using artificial intelligence (AI) is an emerging area of research with profound implications for healthcare, ergonomics, sports science, and human-computer interaction. This article provides an overview of recent developments and methodologies in AI-driven posture detection. It emphasizes the importance of posture in maintaining musculoskeletal health and preventing associated disorders. Traditional methods of posture assessment often involve manual observation or cumbersome measurement devices, which have limitations in terms of accuracy, efficiency, and scalability. In contrast, AI-based posture detection systems offer real-time, non-invasive, and automated solutions for monitoring and analyzing human postures. The paper explores the underlying principles and methodologies used in AI-based posture detection, focusing on computer vision techniques such as image processing, object detection, and pose estimation algorithms to extract relevant features from visual data captured by cameras or depth sensors. Additionally, machine learning and deep learning algorithms are employed to classify and interpret these features, enabling accurate identification and characterization of different postures. The paper also discusses various applications of AI-powered posture detection in diverse domains. In healthcare, these systems facilitate early detection of postural abnormalities, support rehabilitation programs, and enable remote monitoring of patients with musculoskeletal conditions. In ergonomic settings, they aid in assessing ergonomic risk factors and guiding interventions to improve workplace design and prevent work-related injuries. Furthermore, in sports science and fitness tracking, AI-based posture detection enables performance analysis, injury prevention, and personalized coaching for athletes and fitness enthusiasts.

INTRODUCTION

Human posture is crucial for health, well being, and physical performance, as it helps prevent musculoskeletal disorders, enhances biomechanical efficiency, and improves quality of life. However, maintaining optimal posture is increasingly challenging in modern sedentary lifestyles and work environments, leading to a rise in postural abnormalities and related health issues. To address these challenges, researchers and practitioners are turning to artificial intelligence (AI) for posture detection.

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ENHANCING UNDERWATER IMAGE COLOR BALANCE AND FUSION

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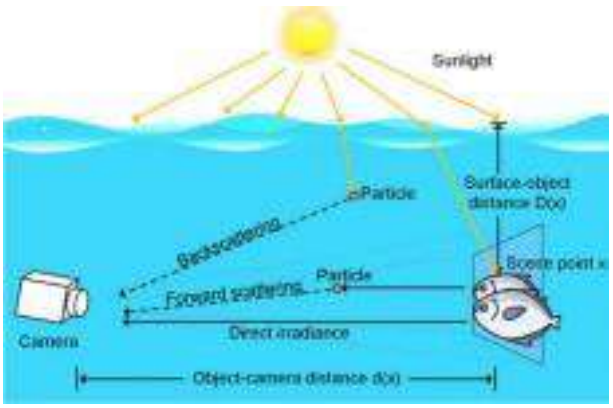
Abstract:

This paper has been written with the aim of learning effective techniques to enhance the underwater captured image or degraded by medium scattering. Here the techniques This technique is based on combining two captured images that are taken directly from the original damage image and modified both color and white balance. Here the purpose to fusion two technique is to encourage the sharpening of the edges and color contrast to the final result. Technique also include multiscale fusion method to prevent unwanted pattern in the low frequency components caused by the sharp modification. Analysis about given paper shows that upgraded photos and videos have sharper edges, higher global contrast, and better exposure of the dark areas.it has been prove through the given sample images and including key point matching and picture segmentation, and is mostly independent of the camera settings.

Keywords: — Underwater, image fusion, white-balancing, underwater image enhancement

INTRODUCTION:

Underwater image refers to the photographs or visual representation typically taken in underwater environment such as oceans, seas, rivers, lake or other water bodies. Underwater photography is used for various purposes, including scientific research, underwater archaeology, environmental monitoring, marine biology and recreational activities such as scuba diving, snorkeling etc., also it is not only an important in marine engineering and research, it also finds use in under water military operation and essential for navigation purposes. aquatic diversity of life thus it is necessary to overcome the problems. when light propagates in water, the water medium and water particles will absorb and scatter light, respectively. The absorption effect causes the color distortion (bending) of underwater images; the scattering effect causes the low contrast and blur of underwater images.[2] Therefore, underwater images present defects such as color deviation, low contrast, and blurry details.Such deteriorated photos significantly affect the feature extraction and object recognition processes that follow. As a result, the clarity of underwater images has gradually become a research hotspot.



Schematic diagram of underwater optical imaging. Natural light enters from air to an underwater scene point x with water depth D(x). Then the reflected light

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RESEARCH PAPER:

INFORMATION TECHNOLOGY IN HEALTHCARE

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Assistant Professor, Pillai HOC college of arts, science and commerce.

Abstract: The impact of information technology (IT) on healthcare is the subject of this research. let's looks at how medical innovation, data administration, and patient care have changed as a result of IT. The research discusses the advantages and difficulties of the growing use of telemedicine, electronic health records (EHRs), and AI-driven analytics. Issues including data security, interoperability, and equitable access continue to exist despite tremendous advancements. In order to strengthen cyber security, facilitate data sharing, and close technological divides, the research offers cooperative alternatives. In the future, it sees utilizing automation, robotics, and cutting-edge IT technologies to further improve
healthcare. Realizing the full potential of IT in influencing healthcare reform requires embracing these breakthroughs while tackling critical obstacles.

INTRODUCTION:

The integration of information technology (IT) has become a revolutionary force in the quickly changing healthcare sector, transforming the fundamentals of patient care, data administration, and medical practice. This study explores the dynamic interactions between the complex healthcare ecosystem and technology breakthroughs, shedding light on the multidimensional impact of IT on healthcare. This study attempts to disentangle the complex web of IT's influence on the healthcare industry, from ground-breaking medical discoveries to the difficulties in guaranteeing data security and fair access.

The use of IT in healthcare is not limited to one area but rather includes a range of revolutionary technologies. In the modern healthcare environment, telemedicine, electronic health records (EHRs), and analytics powered by artificial intelligence (AI) are essential cornerstones. It is critical to comprehend how these developments jointly contribute to the development of patient-centric, cost-effective, and data driven healthcare systems as we negotiate their advantages and face their difficulties.

Though there has been a lot of progress, there are still obstacles in the way of achieving a completely optimal IT-driven healthcare paradigm. This study investigates enduring problems such interoperability issues, data security concerns, and the critical requirement for equal access to technology innovations. Recognizing these obstacles, the report proposes collaborative solutions targeted at strengthening cybersecurity defences, promoting smooth data exchange, and

IMMUNOHISTOCHEMISTRY - AN UPDATE

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Abstract

Immunohistochemistry is the technique of reacting antibody with antigen *in situ* for the identification of specific cellular or tissue components using a whole array of reporter molecules (fluorescent, chromogenic or gold) that reveal the locations in the tissue where the antibody-antigen reaction has taken place. It differs from classic histology in the exquisite specificity with which it can recognize a given tissue antigen through the use of mono- or polyclonal antibodies raised against the antigen of interest. Faster techniques like flow cytometry allow the identification and quantitation of specific antigens on intact cells but it cannot replace conventional immunohistochemistry (IHC) at the tissue level. IHC has become an indispensable technique in diagnostic pathology, oncology and medical research. Even advanced and powerful molecular diagnostic techniques like the *in situ* polymerase chain reaction (PCR) and *in situ* hybridization are a variation on the IHC theme and an effort to visualize intact and specific cells in the context of their location in the tissue albeit at the transcript level.

Introduction

Although IHC as a technique is simple in theory, yet getting consistent, reproducible and reliable results depends on a multitude of factors all of which have to be thoroughly understood and kept in mind while performing the technique. Each laboratory needs to play around with the standard text-book procedure and optimize conditions to suit their needs and obtain acceptable final results. We first address problems relating to IHC on paraffin-embedded tissue sections. Variables affecting a standard IHC protocol using

Exploring Disability, Identity and Intersectionality in Contemporary Indian Fiction

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Abstract

This research paper delves into the nuanced portrayal of disability and its intersectionality with various identities in postmodern Indian novels. Through an interdisciplinary approach, it examines how authors employ narrative strategies to challenge traditional perceptions of disability while addressing issues of caste, gender, class, and other intersecting identities. By analyzing select works of fiction, this paper aims to contribute to a deeper understanding of the complex intersections between disability and identity in contemporary Indian literature. In the Indian context, the definition of disability is multifaceted and often influenced by cultural, socio-economic, and political factors. Disability is commonly understood as a condition or impairment that may restrict an individual's ability to perform certain tasks, participate in activities, or engage fully in society. However, this definition extends beyond the purely medical model to encompass social, environmental, and attitudinal barriers that contribute to the marginalization and exclusion of disabled individuals. The purpose of this research paper is to explore the portrayal of disability and its intersectionality with other identities in postmodern Indian novels. Through an interdisciplinary lens, the paper aims to examine how authors navigate and represent the complex interplay between disability and factors such as caste, gender, class, and religion in their literary works.

Key Words: Disability, Intersectionality, Identity, Postmodernity, Contemporary Fiction

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CHAPTER 44

A STUDY ON ARTIFICIAL INTELLIGENCE IN BUSINESS – CHALLENGES AND OPPORTUNITIES

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Abstract

This paper explores the impact of AI on business, relating openings and challenges that it presents. The results of the study indicate that AI has the implicit to drive significant advancements in business operations, including increased productivity, cost savings, and enhanced decision making related to buying and selling of goods and services using the internet and the transfer of data to execute these deals. Still, the relinquishment of AI also poses several challenges, including data sequestration and security enterprises, ethical considerations, and implicit job relegation. This paper highlights the impact of artificial intelligence on business and its operations in different areas of business. The paper concludes by furnishing recommendations for businesses looking to borrow AI and highlights the need for a cooperative approach between businesses policymakers.

Keywords: Business, AI- Artificial intelligence, opportunities and challenges.

Introduction

AI integration helps both small and large enterprises understand their long-term goals. Business executives can handle more complicated business difficulties and decision-making by using AI to automate various operational tasks. Artificial Intelligence (AI) technology can perform activities, such data analysis, that take human workers many hours to complete in seconds. This results in significant salary savings for corporations while increasing revenue. Accenture estimates that the application of artificial intelligence in business might boost output by 40% or more.

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INDIA AND SOUTH AFRICA: A GLIMPSE AT THE MARITIME RELATIONSHIP BETWEEN CROUCHING TIGER AND AGILE SPRINGBUCK

Abstract:

India's race to be recognized as a serious regional power in the Indian Ocean needs shoulder-to-shoulder support from Africa's largest economy- South Africa. Although there are some commonalities between the two regional powers from a strategic perspective; the partnership has produced very few concrete results. The economic relationship remains comparatively weak, political cooperation is patchy and the prospects for sustained security cooperation are limited too. The trade balance too favours South Africa as her share of India's imports has fallen in recent years. Amidst all these difficulties, the crouching tiger has to find somewhat a solution to overcome this agile springbuck and strategically move in the superior position to flex its muscles in the Western Indian Ocean in particular. A look into the history of the Indo-South African maritime relationship can motivate both of them to extend the formal relationship into a real win-win situation. History will inspire future trends. By working together, the countries can address common challenges such as terrorism, environmental degradation in oceans and seas, piracy, illegal fishing, and smuggling, and contribute to the region's overall development. The Researcher is trying to highlight the opportunities and avenues that have been the main reasons for the growing closeness of these nations and the strategies India used to expand in the Western Indian Ocean as a naval power with the South Africans by their side.

Keywords: Strategic alliance, diplomacy, blue sea, political cooperation, naval games, balance trade, piracy, terrorism, smuggling, maritime alliance, shared history.

Targeted Drug Delivery System for Breast Carcinoma with Vinblastine Sulphate Loaded Poly-ε-Caprolactone Nanoparticles

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***Abstract*— Vinblastine is a Vinca alkaloid that has numerous toxic side effects when used for chemotherapy, the dose-limiting factor being peripheral neurotoxicity, neutropenia, severe myelosuppression and hepatic deficiency. In the present study, biocompatible polymeric nanoparticles made from FDA approved biodegradable polymer, poly-ε-caprolactone were investigated for encapsulating vinblastine sulphate in poly-ε-caprolactone nanoparticles decorated on their surface with covalently conjugated folate moieties for targeted drug delivery through the folate receptor (FR) that are differentially over-expressed on human mammary carcinoma cell lines, MDA-MB-231 and MCF-7 and Ehrlich ascites murine mammary adenocarcinoma model (EAC) in female Swiss albino mice, respectively. The in vitro study found that the FR targeted poly-ε-caprolactone based drug delivery system shows a remarkable reduction in dosage of vinblastine sulphate due to targeted drug delivery while maintaining cytotoxicity towards MDA-MB-231 and MCF-7 cancer cells in comparison to standard dose of pure vinblastine sulphate drug or non-targeted (without folate) vinblastine sulphate entrapped poly-ε-caprolactone nanoparticles. The in vivo study with the EAC model in Swiss albino mice revealed that the required dose of the drug for a given therapeutic response reduced by a highly significant factor of $2\log_{10}$ in comparison to standard dose of vinblastine sulphate. We may conclude that such noteworthy reduction in dosage of a chemotherapy drug due to targeted delivery will decrease the toxic and undesirable side effects of the drug in human cancer patients making it safer for neo-adjuvant or adjuvant therapy.*

Index Terms— *cancer, dose reduction, folate receptor, poly-ε-caprolactone nanoparticles, targeted drug delivery, vinblastine*

Targeted Drug Delivery System for Breast Carcinoma with Vinblastine Sulphate Loaded Poly-ε-Caprolactone Nanoparticles

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Abstract— Vinblastine is a Vinca alkaloid that has numerous toxic side effects when used for chemotherapy, the dose-limiting factor being peripheral neurotoxicity, neutropenia, severe myelosuppression and hepatic deficiency. In the present study, biocompatible polymeric nanoparticles made from FDA approved biodegradable polymer, poly-ε-caprolactone were investigated for encapsulating vinblastine sulphate in poly-ε-caprolactone nanoparticles decorated on their surface with covalently conjugated folate moieties for targeted drug delivery through the folate receptor (FR) that are differentially over-expressed on human mammary carcinoma cell lines, MDA-MB-231 and MCF-7 and Ehrlich ascites murine mammary adenocarcinoma model (EAC) in female Swiss albino mice, respectively. The in vitro study found that the FR targeted poly-ε-caprolactone based drug delivery system shows a remarkable reduction in dosage of vinblastine sulphate due to targeted drug delivery while maintaining cytotoxicity towards MDA-MB-231 and MCF-7 cancer cells in comparison to standard dose of pure vinblastine sulphate drug or non-targeted (without folate) vinblastine sulphate entrapped poly-ε-caprolactone nanoparticles. The in vivo study with the EAC model in Swiss albino mice revealed that the required dose of the drug for a given therapeutic response reduced by a highly significant factor of $2\log_{10}$ in comparison to standard dose of vinblastine sulphate. We may conclude that such noteworthy reduction in dosage of a chemotherapy drug due to targeted delivery will decrease the toxic and undesirable side effects of the drug in human cancer patients making it safer for neo-adjuvant or adjuvant therapy.

Index Terms— *cancer, dose reduction, folate receptor, poly-ε-caprolactone nanoparticles, targeted drug delivery, vinblastine*