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Book of Abstracts

ICMIT 2024

International Conference on Management & IT

AI Driven Innovations: Transforming IT & Management Dynamics

IIIM
INTERNATIONAL SCHOOL OF INFORMATICS & MANAGEMENT
Mansarovar, Jaipur

20-21 September, 2024

14th ICMIT-2024

20-21 September, 2024

ABOUT THE CONFERENCE

Artificial Intelligence has taken every sector by storm and its capabilities are now common knowledge penetrating into many industries and significantly transforming them. As the world becomes more digitized and all industries become much smarter, companies are keeping pace with exploding process complexity and accelerating innovations. AI has significantly transformed both technology and management landscapes, bringing about profound changes in various dimensions. The AI-based global revolution in the field of IT and Management has been sparked by a combination of factors like advancement in Machine Learning Techniques, exponential increase in data generation, affordable computational power and abilities of AI Algorithms to perform tasks that typically require human intelligence in a much efficient way. The integration of AI systems in IT and Management can learn and adapt to new information automatically, perform reasoning and solve problems process vast amounts of data at unprecedented speeds, drive meaningful patterns, make decisions based on the patterns and focus on self-corrections. AI driven innovations have enforced automation and efficiency leading to substantial cost savings and heightened service quality, Predictive Analysis and Maintenance leading to proactive alert mechanisms about potential issues and enabling timely intervention, Improved Data Analytics on terabytes and peta-bytes of data for identifying trends, anomalies, and insights, enhanced Decision-Making and Strategy-Building by providing managers deep insights of market trends, customer needs, and operational challenges, improved Customer Relationship Management Systems by providing personalized customer experiences, personalized recommendations, predict customer needs, and automate responses to common inquiries, optimized supply chain management by predicting demand, managing inventory and identifying inefficiencies and led to the development of intelligent automation of routine and repetitive tasks across various industries for reducing human error and increasing efficiency. Experts often emphasize that our current understanding and application of AI represent merely the 'tip of the iceberg.' The vast, untapped potential of AI is still emerging, and only the future can reveal the magnitude of its influence on business functions and beyond.

The International Conference on Management and IT (ICMIT) aims to unravel the potential of AI, providing a space for dialogue, collaboration, and the exchange of groundbreaking ideas. ICMIT 2024 shall bring together industry leaders, academicians, researchers, and professionals to explore the profound impact of artificial intelligence on information technology and management practices. The conference shall provide a platform for sharing groundbreaking insights, innovative solutions, and best practices in harnessing AI to drive organizational transformation. The conference shall facilitate networking opportunities through dedicated sessions, allowing attendees to connect with peers, share experiences, and explore potential collaborations.

OBJECTIVES

The conference aims to be a comprehensive platform for exploring the transformative potential of AI in IT and management, promoting responsible and ethical AI use, and fostering a collaborative environment for innovation and strategic growth and developments in the field of Management and Information Technology.

- To present the latest advancements in AI technology and demonstrate how these innovations are transforming IT and management practices.
- To emphasize the importance of ethical considerations and governance frameworks in AI adoption.
- To examine how AI is reshaping the workforce and work environments, including both opportunities and challenges.
- To illustrate how AI can enhance strategic decision-making and business analytics.
- To discuss and explore AI applications in various industries, tailoring insights to sector-specific needs and prepare for future trends in AI and its integration with emerging technologies
- To disseminate knowledge, share experiences and to create opportunities for collaboration among AI researchers, technology providers, and industry professionals to drive innovation.
- To equip attendees with the knowledge, tools, and networks necessary to effectively harness AI in their respective fields.

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प्रो. एस. के. सिंह
कुलपति
Prof. S.K. Singh
Vice Chancellor

राजस्थान तकनीकी विश्वविद्यालय, कोटा
RAJASTHAN TECHNICAL UNIVERSITY, KOTA

NO:RTU/VCS/F(1)2024/ Date: 18-9-2024

MESSAGE

We stand at a critical juncture in human history, where AI is no longer just a distant concept but an essential driver of change across industries. In management and IT, AI is reshaping decision-making processes, improving operational efficiencies, and opening avenues for unprecedented innovations. The power to analyse vast amounts of data, predict outcomes, and make informed decisions in real time is revolutionizing how we approach challenges and seize opportunities.

For students, scholars, and professionals alike, the importance of understanding AI cannot be overstated. In the near future, organizations will increasingly seek leaders who can not only navigate the complexities of AI technologies but also harness their potential to foster sustainable growth, innovation, and competitive advantage. The ability to bridge the gap between AI's technical capabilities and its strategic applications in management is fast becoming a critical skill set.

ICMIT will provide a platform for meaningful dialogue, knowledge exchange, and collaboration on these pressing topics The insights shared by distinguished speakers and researchers will help participants gain a comprehensive understanding of AI's current applications, future trends, and ethical considerations.

This conference will serve as significant platform to embrace the vast potential of AI about its role in solving real-world challenges May these two days of the conference be fruitful and be an empowering experience for all the participants of this conference. I extend my best wishes for a successful conference and look forward to the insights that will emerge from these discussions.

(Prof. S.K. Singh) 18/9/24
Vice Chancellor

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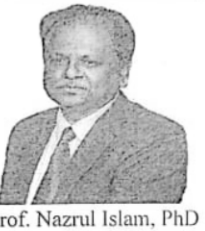

Prof. Nazrul Islam, PhD
Professor
Independent University, Bangladesh

Message

It gives me immense pleasure to extend my warmest gratitude to the organizers of International School of Informatics & Management (ISIM), Jaipur, India for arranging such an International Conference on Management & IT - ICMIT 2024 on AI Driven Innovation and Transforming IT & Management Dynamics. This conference is a remarkable platform for exploring the frontiers of knowledge, sharing insights, and fostering collaborations.

Under the theme, the collective pursuit of transformative progress of the conference will transcend the boundaries and illuminate the path towards a brighter future of the organizations. It will undoubtedly be a valuable resourceful platform for scholars, practitioners, students and the policy makers, fueling further exploration and advancements in the fields of Management and Information Technology. This pioneering initiative will not only serve as a catalyst for the future but also will embrace innovation, leverage emerging technologies, and foster ethical leadership.

The insights which will be gained from the conference will definitely guide the endeavors of the organizers towards creating a meaningful and lasting impact on the global technological development and the work efficiency of the organizations.

Wishing a grand success of the conference.

Nazrul Islam

NATIONAL UNIVERSITY OF LIFE AND ENVIRONMENTAL SCIENCES OF UKRAINE
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Prof (Dr) Nadiia Reznik
Professor of Dept. of Management Named After Y.S.Zavadskii

MESSAGE FOR ICMIT 2024

Greetings from Ukraine.

I am happy to note that the International Conference on Management and Information Technology (ICMIT 2024) is hosted by International School of Informatics Management (ISIM) Jaipur and other leading universities and institutions in India and around the world.

I have been associated in the past editions of ICMIT as a speaker, and can vouch for the high standards that ISIM espouses for scholastic knowledge sharing. This international conference is unique as real knowledge pursuits and research collaborations happen even after the event.

The scope of knowledge collaboration has increased between Ukraine and India due to the visit of Honourable Prime Minister of India Sh.Narendra Modi to our country. Higher education institutions like both of us should make use of this wonderful platform for the benefit of the generation of today.

National University of Life and Environmental Sciences of Ukraine shares its best wishes for ICMIT 2024.

We wish ICMIT 2024 a grand success.

Prof (Dr) Nadiia Reznik

CU | جامعة المدينة عجمان
CITY UNIVERSITY AJMAN

Message for ICMIT 2024

It is a great honor to contribute to the International Conference on Management & IT (ICMIT) 2024, focusing on "AI-Driven Innovations: Transforming IT & Management Dynamics." As artificial intelligence continues to redefine industries, its impact on both information technology and management is profound and far-reaching.

This conference offers a unique opportunity to explore the innovative ways in which AI is reshaping traditional business models, driving efficiency, and enhancing decision-making processes. As we delve into these transformations, I hope to provide valuable insights into how organizations can leverage AI to stay competitive and agile in an ever-evolving landscape.

I am confident that the exchange of ideas and expertise at ICMIT 2024 will inspire new perspectives and solutions that will propel us into the next era of technological advancement and management excellence.

Looking forward to engaging discussions and meaningful collaborations.

Warm regards,

Dr. Varinder Singh Rana
Dept.Chair
Dept of Hospitality and Tourism

JIGYASA UNIVERSITY
(Formerly Himgiri Zee University)
Estd. Under The Uttarakhand Private Universities (Amendment) Act, 2024 (Uttarakhand Act No. 05 , 2024),
Recognised by UGC Under Section 2(f) of 1956 Act.

Prof (Dr) B.S.Nagendra Parashar
Vice Chancellor

MESSAGE FOR ICMIT 2024

ISIM Jaipur and Jigyasa University Dehradun has the following synergies in common – quest for research, collaboration and ethics.In this pursuit of excellence, both higher education institutions partnering with institutions and speakers from Europe, America, Africa, Asia has converged together for ICMIT 2024 Jaipur on September 20th and 21st on theme 'AI driven innovations : Transforming IT & Management Dynamics'.

ICMIT 2024 brain child of Prof (Dr) Ashok Gupta founder of ISIM has envisioned in its essence the scope of raising name of the State of Rajasthan and India through research and academic partnerships. Its academic and industrial advisory board consists of eminent academicians and industry leaders who put in efforts to make the relentless journey of scholastic excellence a reality.

ISIM as a pioneer in knowledge sharing platform through ICMIT since 2015, aims to bring about new thoughts, revelations and information about ongoing research practices around the world.

The efforts taken by ISIM in jointly hosting conference is highly appreciable. Jigyasa University is proud to be a knowledge partner for ICMIT 2024.

We wish the International Conference on Management and Information Technology a huge success.

For And on Behalf of Jigyasa University

Prof (Dr) B S Nagendra Parashar
Vice Chancellor

Address: Post Office Selaqui, Chakrata Road, Dehradun, Uttarakhand,248011

WELCOME NOTE

International School of Informatics and Management is the state's first institute to have earned the coveted NAAC "A" grade amongst the MBA and MCA institutions. The institute has a consistent performance with a high score for its Institution's Innovation Council, established as per the norms of the Innovation Cell, Ministry of HRD, Government of India to promote innovation and startups on campus. Since the inception of the QIV program of the affiliating Rajasthan Technical University in 2017, the institute has been persistent in being among the top positions in the category 'A' for its MBA and MCA programs based on the Quality Index Value (QIV) score declared by Rajasthan Technical University every year. Besides, our institute is the state's first institute to be identified as the research center for the doctoral program in both Management and Computer Science by the affiliating University.

The institute has also achieved distinguished ranks among all the institutions in India, in the surveys conducted by agencies such as CSR-GHRDC, Indian Management and Business World.

In our steadfast dedication to advancing research and exploring new horizons in interdisciplinary studies, we are hosting an international conference on Management and IT, titled 'AI-Driven Innovations: Transforming IT & Management Dynamics.'

In recent years, AI has emerged as a powerful force of innovation, driving transformation across industries. From intelligent decision-making systems to predictive analytics and automation, AI is influencing how businesses operate, how leaders manage, and how organizations evolve. This conference provides an invaluable platform for the exchange of knowledge, ideas, and best practices in AI-driven solutions, offering insights into the future of both IT and management.

As we navigate this exciting frontier, our hope is that the presentations and discussions that take place over the course of this event will inspire new thinking, spark collaborations, and equip partakers with the tools and insights necessary to drive innovation in their respective fields. The intersection of AI, IT, and management holds immense potential to redefine efficiency, strategy, and growth, and this conference aims to contribute meaningfully to this ongoing evolution.

Over the course of this inspiring event, we will witness the unveiling of cutting-edge research, practical insights, and success stories that epitomize the potential of initiatives in management and IT. From AI driven innovations transforming the dynamic landscape of management and IT, to exploring a diverse range of topics, the deliberations will capture the essence of our theme.

In addition to thought-provoking presentations and dynamic panel discussions, this conference provides an exceptional space for networking and collaboration. The relationships built here are sure to ignite fresh ideas, foster partnerships, and lay the groundwork for future projects with the potential to create significant impact in our interconnected world.

Let's embrace this chance to learn, grow, and inspire each other. Together, we embark on a shared journey of discovery, driven by our dedication to advancing innovations that cross borders and bring positive change to our fast-evolving global landscape.

Dr. Ashok Gupta
Chairperson

ABOUT THE CONFERENCE

Welcome to the trailblazing technology powered advancements at the 14th International Conference in Management and Computer Science organized by the International School of Informatics and Management (IIIM) on the theme- AI Driven Innovations: Transforming IT & Management Dynamics. At a time when our country is gearing up for a giant leap to transform itself into a $5 trillion digital economy, this conference underscores the pivotal role of technology in fostering innovation and revolutionizing enterprises.

The conference will bring together experts, researchers, professionals, and stakeholders from across the globe to examine and discuss the transformative impact of artificial intelligence (AI) in shaping the dynamics between information technology and management. It will also provide a platform for sharing pioneering research, innovative applications, and best practices for leveraging AI technology to tackle challenges and seize opportunities in these sectors.

At IIIM we firmly believe that true education opens doors to a world where knowledge meets practice, and where growth, inspiration, and transformation flourish. Saluting this spirit of learning and enlightenment, I wish this conference a great success.

Prof. Roopa Mathur
Director

INTRODUCTION

Artificial Intelligence, once a concept confined to science fiction, is now a reality that is revolutionizing Information Technology and Management. From automating routine tasks to generating predictive insights, AI is fundamentally changing the way businesses operate and how leaders make decisions.

AI is increasingly being adopted across public and private sectors as a dependable technology that enhances stakeholder experiences, drives the creation of digital revenue streams, establishes strong competitive advantages, and strengthens organizational resilience in the face of uncertainty.

As highlighted by the International Data Corporation's recent spending guide, global investment in AI is projected to reach an astounding 337 billion US dollars by 2026. This significant growth reflects the commitment of organizations worldwide to leverage AI as a key tool for future-proofing their businesses and staying ahead in an increasingly competitive landscape.

Industries spanning Finance, Oil and Gas, Government, Manufacturing, Retail, and Telecommunications have already embarked on their AI journeys, making significant investments to harness the power of this transformative technology. Today, the rapid emergence of Generative AI is being embraced as a major disruptor, revolutionizing every aspect of life and business. It is enabling smarter, faster, scalable, and cost-effective solutions that deliver greater value than ever before.

Continuing with our endeavor to promote research in the intersecting domains of management and IT, IIIM in collaboration with its knowledge partners across the globe is organizing the fourteenth international conference on Management and IT on ' AI Driven Innovations: Transforming IT & Management Dynamics .'

The theme of the conference, has been has been carefully chosen to explore into a wide range of important topics that reflect both advanced research and practical application in the field.

The sessions are designed to delve upon the new technology, projects and initiatives undertaken to succeed in the digital transformation journey and capitalize on the AI opportunity.

Our conference will feature three broad technical sessions. The first, Technical Session: AI-Driven Management – Harnessing Technology for Strategic Advantage, will explore how AI can be seamlessly integrated into organizational workflows, processes, and goals. This session will focus on the strategies that enable businesses to align AI with their overall objectives, ultimately driving efficiency, innovation, and competitive advantage.

The technical session II on AI driven emerging technologies shall look at the cutting-edge technologies including 5G, block chain, augmented reality & virtual reality, machine learning & deep learning, robots, natural language processing, etc.

While the technical session III on "strategizing in an AI dominated world will focus on AI tools that can help avoid biases in decisions, pull insights out of oceans of data, and make strategic choices more quickly.

The panel discussion on "AI Readiness: Technology Impetus and Business Adoption" will feature experts exploring a wide range of topics, including key factors driving AI implementation, the newest advancements in AI technology, and strategies for effortlessly integrating AI into business operations. The discussion will also address the challenges businesses face in adopting AI and focus on crafting strategies that enable enterprises to scale and operationalize AI effectively helping them move beyond the experimental stage by leveraging real-world use cases and best practices

Given the overwhelming response, we are once again hosting the conference in a hybrid format. Participants will have the opportunity to hear from experts, visionaries, and pioneers shaping the AI-driven world, with discussions centered on the core themes. The event will also feature online paper presentations from researchers, faculty, and corporate professionals, offering valuable insights to researchers and academics worldwide.

We encourage each of you to engage fully, ask tough questions, and think creatively about how we can embrace AI's potential to foster innovation, drive efficiency, and transform industries. May this gathering propel us toward novel horizons and a deeper understanding of the ever-evolving relationship between management and information technology.

Thank you, as I look forward to the exciting discussions ahead. Let's unlock the future together!

Prof. Manju Nair
Convenor

EDITORS' NOTE

It is with great pleasure that I present the Book of Proceedings for the International Conference on Management and Information Technology, titled AI-Driven Innovations: Transforming IT & Management Dynamics. This collection of papers reflects the conference's commitment to exploring the profound ways in which Artificial Intelligence (AI) is reshaping the landscape of both Management and IT.

In recent years, AI has emerged as a game-changer across multiple industries, from automation and data analytics to decision-making processes in management. The integration of AI-driven technologies is not only enhancing operational efficiencies but also revolutionizing strategic thinking and innovation. As businesses and organizations worldwide navigate these dynamic shifts, the dialogue between IT and management has never been more critical.

The contributions in this volume are diverse, encompassing theoretical advancements and practical implementations that highlight the breadth of AI's impact. From innovative algorithms and machine learning models to AI-driven business processes and leadership strategies, the deliberations research presented here push the boundaries of what is possible in today's fast-evolving technological environment.

The ICMIT 2024 Conference aims to bring together students, researchers, academicians and industry professionals to share knowledge, experiences, ideas thereby achieving congruency of thoughts and ideas among them.

We would like to extend our deepest gratitude to all the researchers, practitioners, and thought leaders whose work is featured in this publication. Their insights and findings are not only valuable today but also provide a foundation for future exploration. We also thank the organizing committee, reviewers, and participants for their dedication in making this conference a success.

It is our hope that this collection will inspire further research, collaboration, and innovation, as we collectively embrace the transformative potential of AI in both IT and management.

Prof. Manju Nair
Prof. Kavaldeep Dixit
Prof. Swati V. Chande
Dr. Vijay Gupta
Dr. Preeti Tiwari
Dr. Sandeep Vyas

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Prof. Roopa Mathur
Director

Convenor
Prof. Manju Nair
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Co-convenors

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Vice Principal & HOD Management

Prof. Swati V. Chande
HOD, Computer Science

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- Dr. (Mrs.) U S Roya Akhter, Executive Director, South Asian Institute for Social Transformation, Dhaka, Bangladesh
- Dr. Desmond Onyemechi Okocha,Bingham University Nigeria
- Dr. Abeer Jaber AbuIyada, (United Nations Organization) Department of Education at the United Nations Relief & Works Agency (UNRWA), Gaza, Palestine

PROGRAMME SCHEDULE

DAY-1: 20-September 2024

Youtube Link: https://youtube.com/live/zAIu1NnI0dE?feature=share

Day-1: 20.09.2023	**INAUGURAL CEREMONY**	
SNO	**Speaker**	**Time**
1.	Vandana and Lamp Lighting	10:00 AM – 10:05 AM
2.	**Welcome Address:** Prof. Roopa Mathur, Director, IIIM, Jaipur	10:05 AM – 10:09 AM
3.	**Introduction to the Conference:** Prof. Manju Nair, Principal, I IIM, Jaipur	10:09 AM – 10:14 AM
4.	**Inaugural Address: Chief Guest-** Mr. Rishabh Nag, Founder, Humanly.ai	10: 14 AM -10:24 AM
5.	**Guest of Honor:** Mr. Nishant Patni, Serial Entrepreneur, Angel Investor, Investment Committee Member, Startup Oasis	10: 24 AM -10:34 AM
6.	**Key Note Speaker:** Mr. Rohit Mehta, Practice Head-Quality & Automation Testing, Pratham Software	10:34 AM-10:44 AM
7.	Release of Book of Abstracts	10:44 AM – 10:50 AM
Zoom Link: https://us06web.zoom.us/j/85267181429?pwd=RZlZrXQ7nWghrWrxAFdEguzindvDGh.1		
TECHNICAL SESSION -1: AI DRIVEN MANAGEMENT: HARNESSING TECHNOLOGY FOR STRATEGIC ADVANTAGE		
SNO	**Speaker Profile**	**Time**
1.	Prof (Dr.) Nazrul Islam, Pro Vice Chancellor, Northern University Bangladesh, Dhaka, Bangladesh	11:00 AM – 11:20 AM
2.	Mr. Abdul Hakimm, CMO(Chief Marketing Officer) , Hoorain HTF Limited, Dhaka, Bangladesh	11:20 AM – 11:40 AM
3.	Prof (Dr.) Varinder Singh Rana, City University Ajman, Ajman, UAE	11:40 AM – 12:00 PM
LUNCH BREAK		**12:00 PM – 1:30 PM**
Zoom Link: https://us06web.zoom.us/j/85267181429?pwd=RZlZrXQ7nWghrWrxAFdEguzindvDGh.1		
PAPER PRESENTATIONS -TRACK -1: AI DRIVEN MANAGEMENT: HARNESSING TECHNOLOGY FOR STRATEGIC ADVANTAGE		
Session Chairs		**Time**
• Prof (Dr.) Ampu Harikrishnan, Registrar, Himgiri Zee University, Dehradun, Uttarakhand • Dr. Sandeep Vyas, Associate Professor, International School of Informatics & Management, Jaipur		11:00 AM – 12:30 PM
Rapporteur		
Dr. Poornima Mathur, Associate Professor, International School of Informatics & Management, Jaipur		11:00 AM – 12:30 PM
Coordinator		
Ms. Ritu Khandelwal, Ms. Anushri Vijay, International School of Informatics & Management, Jaipur		11:00 AM – 12:30 PM
Google Meeting Link: https://meet.google.com/kfg-ppnw-xww		
TECHNICAL SESSION -2: AI DRIVEN EMERGING TECHNOLOGIES		
SNO	**Speaker Profile**	**Time**
1.	Dr. Froilan D. Mobo, Professor, Philippine Merchant Marine Academy, Phillipines	01:30 PM - 01:50 PM
2.	Dr. Nada Ratkovic, Asst. Professor , Faculty of Economic Business and Tourism, University of Split, Croatia	01:50 PM - 02:10 PM
3.	Prof (Dr.) Beatriz Lucia Salvador Bizoto, Professor, UNIFACTVEST University, Brazil	02:10 PM – 02:30 PM
Zoom Link: https://us06web.zoom.us/j/85267181429?pwd=RZlZrXQ7nWghrWrxAFdEguzindvDGh.1		
PAPER PRESENTATIONS -TRACK -2 (PARALLEL TRACK) : AI DRIVEN EMERGING TECHNOLOGIES		
Day-1: 20.09.2024		
Session Chairs		**Time**
• Dr. Bhumija Chauhan, Associate Professor, International School of Informatics & Management, Jaipur • Dr. Preeti Tiwari, Associate Professor, International School of Informatics & Management, Jaipur		1:30 PM – 3:00 PM
Rapporteur: Dr. Gargi Sharma, Associate Professor, International School of Informatics & Management, Jaipur		1:30 PM – 3:00 PM
Coordinator		
Dr. Poornima Mathur, Mr. Santosh Kumar Pandey , International School of Informatics & Management, Jaipur		1:30 PM – 3:00 PM
Google Meeting Link: https://meet.google.com/kfg-ppnw-xww		

PROGRAMME SCHEDULE

DAY-2: 21-September 2024

Youtube Link: https://youtube.com/live/PKvSocasv7Q?feature=share

PANEL DISCUSSION: AI READINESS : TECHNOLOGY IMPETUS AND BUSINESS ADOPTION		
Day-2: 21.09.2024	**PANELIST**	
SNO	**Speaker**	**Time**
1.	Mr. Amit Joshi, Director, Global Knowledge Research Foundation & Knowledge Chamber of Commerce & Industry of India, Ahmadabad	09:30 AM – 12:00 PM
2.	Prof. Akshay Dwivedi , Professor, Department of Mechanical and Industrial Engineering and Dean, Sponsored Research and Industrial Consultancy at Indian Institute of Technology, Roorkee	09:30 AM – 12:00 PM
3.	Ms. Anju Kohli, Business Head-Sales (Cyber Defense & Forensics), USA	09:30 AM – 12:00 PM
4.	Mr. Sanjeev Soneja, Cluster Lead/ Associate Director of Operations , Accenture , Manila, Philippines	09:30 AM – 12:00 PM
5.	Mr. Uday Nedunuri, General Manager and Group Head - Data & Analytics, Suzlon Group, Dubai	09:30 AM – 12:00 PM
6.	Mr. Anuj Gandhi, Head IT & Digital Sterlite Power, Mumbai	09:30 AM – 12:00 PM
7.	Prof. Anil Mehta, Department of Management Banasthali Vidyapeeth, Banasthali	09:30 AM – 12:00 PM
LUNCH BREAK		**12:00 PM – 1:00 PM**
Zoom Link: https://us06web.zoom.us/j/85267181429?pwd=RZlZrXQ7nWghrWrxAFdEguzindvDGh.1		
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SNO	**Speaker Profile**	**Time**
1.	Dr. Desmond Onyemechi Okocha, Dean, Faculty of Communication and Media Studies, Bingham University, Nasarawa State, Federal Republic of Nigeria	01:00 PM – 01:20 PM
2.	MD Alauddin, Academician and Entrepreneur, Dhaka Bangladesh	01:20 PM –01:40 PM
3.	Dr. Melissa Esposito, ITI Medi San Giorgio a Cremano, Italy	01:40 PM – 02:00 PM
Zoom Link: https://us06web.zoom.us/j/85267181429?pwd=RZlZrXQ7nWghrWrxAFdEguzindvDGh.1		
PAPER PRESENTATIONS – TRACK-3 (PARALLEL TRACK): STRATEGIZING IN AN AI DOMINATED WORLD		
Session Chairs		**Time**
• Dr. Madhavi Sinha, Associate Professor & HOD, Birla Institute of Technology, Extension Center, Jaipur • Dr. Aruna Dhamija, Professor, Institute of Legal Studies, GLA University, Mathura • Dr. N. K. Joshi, Director, Modi Institute of Management & Technology, Kota		01:00 PM – 02:30 PM
Rapporteur		
Dr. Vijay Gupta, Associate Professor, International School of Informatics & Management, Jaipur		01:00 PM – 02:30 PM
Coordinator		
Dr. Apeksha Bhatnagar, Ms. Osheen Modi , International School of Informatics & Management, Jaipur		01:00 PM – 02:30 PM
Google Meeting Link: https://meet.google.com/kfg-ppnw-xww		

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- Conference Organizing Committee & Advisory Committee
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ABSTRACTS

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AI Driven Innovations: Transforming IT & Management Dynamics

HARNESSING AI FOR ENHANCED PERSONAL FINANCIAL MANAGEMENT AND RETIREMENT PLANNING: BENEFITS, CHALLENGES, AND FUTURE PROSPECTS

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ABSTRACT:
This research seeks to explore how and to what extent AI financial tools are being adopted, the benefits, the challenges faced, and how effective they are among a population in India. The purpose of our study is to examine the current role of AI in financial habits of individuals and to find out how these experiences might develop in the future.
The research methodology was quantitative, along with closed-ended questionnaires to acquire data from an individual total of 117 respondents within the age bracket of 25 to 65 years. Among the survey questions we included ones on the current AI tool, perceived benefits, challenges and the perceived effectiveness. Data were analyzed by using descriptive and inferential statistics; simple and multiple regression, and correlation. The survey sought to establish the participants' demographic characteristics, their exposure and interaction with the AI tools we sought to incorporate into the application, the perceived benefits, concerns, and confidence in AI-based financial advice.
Demographic Overview: Out of all the respondents, 57.3% were females while 42.7% males. In the age distribution, 17.1% were aged 25-34, 34.2% were aged 35-44, 29.9% aged 45-54, and 18.8% aged 55-65. In the Income section, 23.1% reported earnings less than INR 5,00,000; 47% reported earnings between INR 5,00,000 to INR 10,00,000; and 29.9% reported earning more than 10,00,000 annually. Educational background consisted of 12.8% having high school degree, 51.3% had bachelor's degree, 25.6% had master's degree, and 10.3% had doctorate.
AI Usage: According to the results, a relatively small proportion of 27% of respondents claimed to engage with AI in financial tools, which indicates the developmental stage of this trend in India. The most popular tool identified was ChatGPT at 50%, second was financial planning Apps at 30% and Robo advisor at 20%. The frequency of AI tools usage was as follows; daily usage of AI tools stood at 15% while 55% used the tools weekly and 30% monthly. However, only a small number of the total respondents reported the use AI tools in financial management highlighted that there is general awareness and individuals are willing to use advanced technological solutions for their financial management practices
Benefits: The usefulness of AI tools in managing finances was rated highly with a mean rating of 4.3 out of 5. The benefits that specifically reported were time saving (55%), Better Budgeting (45%), improved investment decisions (35%), tailored and personalized advice (25%). Our results indicated that AI tools significantly impact the financial decision-making of the respondents, with users reported making more informed decisions (50%), increased confidence in financial planning (35%), and they also reported reduced financial stress (20%). The results demonstrate the prospects of AI to improve actual process of financial management and having better overall outcomes.
Challenges: Despite having positively impacted the financial planning, the respondents had few concerns regarding the use of these tools. These concerns included data privacy (65%), security (55%), accuracy of advice (45%), and dependence on technology (35%). Such concerns call for strong methods of data protection measures, and AI systems that are transparent in order to build trust among the users. Overcoming these challenges is important for the further advancement of AI technologies in the field of personal financial management.
Effectiveness and confidence: The respondents rated the effectiveness of AI tools in the improvement of the financial outcomes at a mean of 4.1 out of 5. Respondents also reported modest level of confidence in the accuracy of AI provided financial advice, with a mean rating of 3.9 out of 5. These findings indicate that although the users find AI tools helping and beneficial, the room for improvement still exists when it comes to the accuracy and reliability.
Future Prospects: It was reported by 85% of respondents that use of AI will become more prevalent in the area of personal financial management in the future. Specific improvements in AI-driven financial tools were better data privacy (65%), enhanced security (55%), and more personalized features (45%). These observations are a strong indicator of promising future applicability of AI for personal financial management provided that the key concerns reported are properly addressed.
Practical Implications: The results are very optimistic and show the usefulness of AI in personal financial management, and improvement of financial literacy Even though the rate of adoption of the AI is still low. The strong results and positive outcomes reported by the respondents show that awareness and encouragement of the use of AI tools can enhance the financial planning and management, as well as better financial literacy on a bigger scale. addressing the data privacy and security concerns is still very important for trust building and in ensuring the well spread adoption. Policy makers and tech developers must direct their efforts towards the development of safe, efficient, and easy-to-use AI tools.

KEYWORDS: AI, personal financial management, retirement planning, ChatGPT, financial planning apps, robo-advisors, financial decision-making,

ARTIFICIAL INTELLIGENCE IN BANKING: REVOLUTIONISING CUSTOMER EXPERIENCE AND ENHANCING SECURITIES

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ABSTRACT:
Artificial Intelligence (AI) has given a new edge to the financial services organizations. AI is beneficial for managing risks, forecasting market trends and increased customer experiences. For the banking sector, AI plays a significant role and has proven to be favourable. It has established itself as a powerful technology in improving services for the customers, wealth management and fraud detection.
Embracing the changing working methods due to AI developments, is a numero uno way of keeping customers satisfied and improving user experience. Banks all over the world, have accepted AI transformation in order to stay ahead of the technology trends, boost their competitive advantage, and offer latest valuable services to the customers.
For the customers, AI has proven to be an effective way of making their financial decisions. Due to such reasons, banks continue to give importance to AI investment that not only help in staying ahead of the competition but offer their customers the best, latest and sophisticated tools for managing their funds and investments. There is no doubt that customers opt for such banks which offer them with personalised AI applications that provide clarity and transparency over their financial opportunities.
Subsequently, banks would advertise the incorporation of the AI technology and showcase advancements made in their services offered to the customers. This will bring a new transition in their operating models; accept digitization and automation, leading to increased profitability in the new future.
The main objective of the research study is to study the impact of AI on customer interactions by providing more personalized responsive and efficient service so that it can ensure security measures and enhance safety.
The purpose of conducting this research is to evaluate the benefits of AI technologies in banking sector as well as know the outcome of its usage from the perspectives of bank employees as well as its customers. AI has not only revolutionised the banking business, it has also increased the customers' experiences and enhanced securities. The result of the research study, conducted on various private and public banks, shows enhanced efficiency, security and customer engagement. AI has enabled banks to dedicate equal and personalised engagement to each customer. AI has helped maintain decision-making consistency, essential for fairness and regulatory compliance.

KEYWORDS: Financial services, Customer interactions, AI, Digital transformation

ETHICS IN AI ENTREPRENEURSHIP: BALANCING INNOVATION AND RESPONSIBILITY

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ABSTRACT:
At the vanguard of technological innovation, artificial intelligence (AI) is revolutionizing markets and changing the face of entrepreneurship by opening up new business opportunities, improving operational effectiveness and enabling previously unheard-of degrees of customisation for goods and services. Artificial intelligence (AI) driven technologies like automation, machine learning, natural language processing and predictive analytics are giving business owners the ability to innovate and grow quickly. Concerns regarding bias, accountability, transparency, privacy and wider societal effects have emerged as AI systems are included into decision-making processes, posing issues about how to strike a balance between innovation and moral obligation.
In AI ethics, accountability and transparency are equally important concerns. AI systems' decision-making processes are sometimes opaque, which makes it challenging to comprehend how and why particular judgments are made. This is a problem known as the "black box" issue. Due to this lack of transparency, it may be difficult to determine who is responsible for negative or unexpected effects that AI systems produce. This implies that the application of AI complicates conventional ideas of accountability and liability for business owners.
Another major ethical challenge in AI entrepreneurship is privacy, especially as AI systems frequently need access to sensitive and personal data in enormous quantities. Important concerns concerning permission, data security and misuse potential are brought up by the use of such data. Entrepreneurs have to strike a compromise between upholding individual privacy rights and using data to fuel AI-driven innovation. This entails putting strong data security mechanisms in place, like encryption and anonymization, adhering to data privacy laws and promoting openness on data collecting and usage procedures.
Beyond personal ethical worries, AI has a significant and wide-ranging impact on society. AI's automation potential can boost productivity and economic expansion, but it also raises employment concerns because computers may eventually replace people in tasks that have historically been done by humans. The possibility of job displacement prompts more general inquiries concerning the nature of employment in the future and economic inequality. Entrepreneurs need to think about these societal ramifications and investigate ways to lessen any potential bad effects. Some of these strategies include funding programs for upskilling and reskilling, helping with workforce transitions and interacting with legislators to create inclusive AI policies that take into account the needs of various communities.
This study attempts to give a thorough analysis of the ethical problems that arise in AI entrepreneurship, looking at the roles that AI entrepreneurs should play in resolving these problems and offering solutions for striking a balance between innovation and responsibility. This paper aims to provide a road map for responsible AI development by examining current ethical frameworks, examining case studies and talking about recommended practices. It highlights the significance of incorporating ethical considerations into the AI lifecycle at every level from design and development to deployment and monitoring and it promotes an ethically conscious organizational culture.

KEYWORDS: AI Ethics, AI Entrepreneurship, Innovation, Responsibility, Techno ethics

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THE ROLE OF ARTIFICIAL INTELLIGENCE IN STRATEGIC DECISION MAKING (AI-DRIVEN MANAGEMENT: HARNESSING TECHNOLOGY FOR STRATEGIC ADVANTAGES)

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ABSTRACT:
Artificial Intelligence (AI) is rapidly emerging as a transformative force in strategic decision-making across various industries. As organizations navigate increasingly complex and dynamic environments, Artificial intelligence introduces ground-breaking approaches that improve conventional decision-making systems. Through the use of sophisticated data analytics, predictive modeling, and real-time decision support tools, AI empowers organizations to swiftly and accurately process and evaluate large volumes of data. This capability not only uncovers patterns and trends that might otherwise go unnoticed but also supports more informed and timely decision-making.
The integration of AI into strategic planning processes marks a significant shift from conventional approaches, where decisions were often based on historical data and human intuition alone. AI's ability to process real-time data allows organizations to adapt their strategies quickly in response to changing market conditions, emerging risks, and new opportunities. For instance, in industries such as finance, healthcare, and retail, AI-driven decision support systems are being used to optimize supply chains, personalize customer experiences, and predict market trends with remarkable precision.
This paper explores the multifaceted role of AI in strategic decision-making through study that demonstrates its practical applications. This case study illustrate how organizations are using AI to identify growth opportunities, mitigate risks associated with uncertainty, and refine their strategic objectives in response to evolving circumstances. In the financial sector, for example, AI algorithms are employed to predict market movements, assess credit risk, and detect fraudulent activities, thereby enabling more proactive and informed decision-making.
However, the adoption of AI in strategic decision-making is not without challenges. A key issue is maintaining the quality and reliability of the data that AI systems depend on. If the data is inaccurate or biased, it can result in misguided insights and poor decisions. Furthermore, the ethical aspects of AI, especially in terms of transparency, accountability, and fairness, require careful attention. Organizations need to ensure that their AI systems are developed and deployed in ways that uphold ethical principles and avoid unintentionally reinforcing biases or inequalities.
Another critical challenge is achieving a balance between AI-driven insights and human expertise. While AI can process and analyze data at a scale and speed beyond human capabilities, it lacks the nuanced understanding and contextual awareness that human decision-makers bring to the table. Therefore, the most effective use of AI in strategic decision-making involves a collaborative approach, where AI-generated insights are combined with human intuition and experience. This synergy allows organizations to harness the strengths of both AI and human decision-making, leading to more robust and well-rounded strategies.
The research presented in this paper contributes to the ongoing discourse on AI's potential to reshape strategic management practices. It provides valuable insights for organizations seeking to leverage AI in their decision-making processes, emphasizing the importance of a thoughtful and balanced approach. As AI advances, its influence on strategic decision-making is expected to grow, creating opportunities for innovation and competitive edge. However, for organizations to fully harness AI's potential, they must carefully address the accompanying challenges, ensuring that AI is employed responsibly and effectively to complement, rather than replace, human decision-making.

KEYWORDS: Artificial Intelligence (AI), Strategic Decision-Making, Data Analytics, Predictive Modeling, Real-Time Decision Support, AI Integration, Strategic Management, Ethical AI, human collaboration, Data-Driven Strategy.

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GENERATIVE AI IN EDUCATION: AUTOMATED EDUCATIONAL INNOVATION

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ABSTRACT:
Generative AI's integration into education has sparked a wide range of reactions. On one hand, there is a surge of optimism among educators and developers who see the immense potential of these technologies to revolutionize the way we approach teaching and learning. On the other hand, there is palpable apprehension, particularly concerning the fear that machines might eventually replace the roles traditionally held by humans, such as teachers, developers, and instructional designers. However, this study posits that these fears are largely unfounded. Instead of replacing human roles, Generative AI is augmenting and enhancing them, offering tools and platforms that allow educators and developers to focus on higher-level tasks, fostering creativity, efficiency, and innovation within the educational sphere.

One of the primary ways Generative AI is enhancing the role of educators and developers is by offering novel platforms that facilitate more efficient and personalized learning environments. Traditional educational models often struggle to meet the diverse needs of individual learners due to constraints in time, resources, and the one-size-fits-all nature of many educational systems. Generative AI, however, can process vast amounts of data to tailor learning experiences to individual students, taking into account their unique learning styles, paces, and preferences. This personalization is not merely about adapting content but also about creating an engaging and motivating learning journey for each student, something that would be extremely difficult to achieve at scale without the aid of AI.

Moreover, the use of AI in education enables developers to concentrate on higher-order tasks such as problem-solving, design, and innovation. AI handles routine and repetitive tasks, such as grading, content curation, and even basic instructional duties, freeing up educators and developers to focus on what they do best—thinking creatively and strategically about how to design and implement educational experiences that are both effective and engaging. For instance, instead of spending hours grading papers or curating learning materials, educators can spend more time interacting with students, providing one-on-one guidance, and developing innovative instructional strategies.

The study further illustrates the positive impact of Generative AI through a number of case studies and examples where AI-driven platforms have promoted content development, automated routine work, and opened up new avenues for individualized learning. For instance, AI tools can generate content for lessons, quizzes, and assignments based on the curriculum, ensuring that the material is always up-to-date and aligned with the latest educational standards. This automation not only saves time for educators but also ensures consistency and accuracy in educational content.

Furthermore, AI-driven analytics can provide insights into student performance that were previously impossible to obtain. These insights allow educators to identify learning gaps, predict student outcomes, and intervene early when a student is struggling, thereby improving the overall effectiveness of the educational process. This kind of data-driven approach to education ensures that no student is left behind and that each learner receives the support they need to succeed.

While the advent of Generative AI in education has raised concerns about job displacement, this paper demonstrates that these fears are largely misplaced. Rather than replacing educators and developers, AI is providing them with powerful tools to enhance their roles, making them more efficient, creative, and effective in their work. By automating routine tasks, facilitating personalized learning, and providing new opportunities for innovation, Generative AI is helping to create a richer, more dynamic educational landscape that benefits both educators and students. Thus, rather than viewing AI as a competitor, it should be seen as a valuable collaborator in the ongoing effort to advance education.

KEYWORDS: Generative AI, AI-driven Analytics, Educational Tools

STRATEGIC EVALUATION OF AI IMPLEMENTATION IN B2C E-MARKETS

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ABSTRACT:
Artificial Intelligence (AI) connotes to application of various computers and IT technologies which act like humans rather beyond the imagination of human being with utmost accuracy and relatively at less cost. It's tremendous benefits in the field of business and other related activities has attracted various business units to invest and deploy the various feature available in the market through understanding the ongoing languages, and converting the various patterns and taking relevant decision to solve the routine complex problem which may be a dream for the human being.
PURPOSE OF THE STUDY
The present study tries to explore various factors creating hurdles in adopting AI in B2C E-markets by business organizations by collecting a sample of 200 industrial units adopting AI in B2C E-Markets.
The core objectives of the present research are :
1. To analyze the obstacles in the adoption of AI in B2C e-markets
2. To provide the solution for the obstacles on the way of AI adoption
FINDINGS
Five Factors that emerged to be accountable for the non participation of the companies in deploying AI are Security issues, Cost Factor, IT penetrations, R& D and Data Collection and Processing.
Security has been the major issue for most of the companies deploying AI adoption in existing marketing system. Many IT professionals have started earning money by hacking the website of the companies and demanding huge amount. They (Hasan, 2021) can send unwanted data with email which can damage hardware and software penetration of the companies causing huge loss to the companies. It also reduces the image of companies and reduce customer confidence in such companies. There are numerous internet frauds that had taken place around the world which restricts the user to go online.
Cost Factor is another important hindrance on the way of adoption of AI in B2C e-markets. Introducing Computer software (Ionescu, 2019) and hardware which gets outdated very fast and huge amount is required to update these processes.
Another major hindrance on the way to AI adoption is the lack of IT penetration (Ionescu, 2019) available for the companies including lesser resources to the organization, Advanced hardware system are not easy to avail and cope with, lack of empathy and other emotional variables. AI can only be implemented if the companies are governed by the sound R&D on regular basis which is hardly possible for the small and medium organizations (Ionescu, 2019). AI process bulk of data with latest machines and moreover the success of AI depends on the accuracy of the data collected and process as per the desired directions (Emetaram, 2021).
IMPLICATIOIN
AI adoption in B2C e-markets is still at infancy stage in India as there are many reasons which restrict the companies to participate in these markets with the help of AI . Undoubtedly AI shall prove to be a significant tool in the hands of business organisation but it needs to be improvised before it is used in the organisation rather needs to be adopted with due care otherwise instead of giving advantages , it can be a big challenge for the companies.

KEYWORDS: Artificial Intelligence, B2C E-markets, IT Penetration,

THE ANALYTICS OF E-COMMERCE: A COMPREHENSIVE ANALYSIS OF AMAZON DATA

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ABSTRACT:
In the field of E-commerce, Amazon acts as the most dominant global marketplace with significant sales across multiple categories. There have been a lot of studies done in the past to understand the sales pattern of Amazon sales. This research paper aims to perform an analysis of Amazon sales data to find new key trends, insights, sales patterns, and factors influencing sales. This analysis starts with data preprocessing to improve data quality and accuracy of the dataset. After this, EDA is performed to identify initial trends and correlations within the data. This study finds sales patterns, identifying periods of peak sales and the states where different product categories are trending.

Amazon sales data consist of sales, sales trends over time, sales distribution by state, various product categories and several other data points. Amazon sales data analysis concentrates on the process of analyzing customer behaviour, sales, market trends, and several other factors to make effective, improved data-driven decisions. The main key to earning profits and for a successful business is to analyze different factors like revenue, sales over the year, etc. Analysis of sales data helps in improving the business, increasing their revenue and effectiveness of promotional strategies.

With the rise of new technology and innovation, data analytics is helping the e-commerce industry to grow fast. Data analysis enables e-commerce businesses to understand customer behaviour in a quite different manner and helps the businesses to improve the quality of services they provide and to enhance the weak areas of the business. Many analyses are performed to get insights from the analyzed data so that the business can make better decisions and can help in customer behaviour analysis and satisfaction. This analysis of Amazon sales data would help in making better decisions and in improving the quality of services which can lead to successful business.

KEYWORDS: Data Analysis, Marketplace, Data-Driven decisions, Sales Pattern, E-commerce, Data Preprocessing, EDA.

AI AND HUMAN COLLABORATION: SHAPING THE FUTURE OF WORK

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ABSTRACT:
The future of work is increasingly shaped by the integration of Artificial Intelligence (AI) and human collaboration, leading to transformative changes in organizational practices and job roles. This paper explores how emerging technologies such as Human-AI collaboration and the Metaverse are anticipated to redefine the work environment. With a focus on AI's evolving capabilities, particularly through the concept of Artificial General Intelligence (AGI) with multiple intelligences. Both developments, though in their early stages, hold significant potential to transform organizational practices, as demonstrated by the rapid rise of generative AI. The propose of using web-based horizon scanning and McGrath's group task circumplex to develop four future work scenarios are Generate, Choose, Negotiate, and Execute, that speculate on how these technologies may influence work dynamics. These scenarios are grounded in McGrath's group task circumplex, offering a framework to anticipate and prepare for potential changes in work processes and organizational structures.
The emerging technologies in this paper explain about how human intelligence and multiple learning styles can inspire the development of advanced AI systems, particularly multi-agent systems. It highlights the current limitations of AI, which excels in narrow tasks but struggles in dynamic environments. The concept of "AGI with multiple intelligences" describe a type of Artificial General Intelligence that not only has the ability to understand, learn, and apply knowledge across a wide range of tasks, similar to human intelligence, but also incorporates various forms of intelligence beyond just logical-mathematical, including emotional, social, creative, and moral-ethical intelligences. These multiple intelligences are key to developing AI systems that can adapt to complex human-like interactions and decision-making. The categorization of AI systems that based on their intelligence types: AI-PQ (physical intelligence), AI-IQ (intellectual intelligence), AI-EQ (emotional intelligence), AI-SQ (social intelligence), AI-CQ (creative intelligence), AI-INQ (innovative intelligence), and AI-MQ (moral-ethical intelligence). Special focus is given to AI with social intelligence (AI-SQ), emphasizing its ability to interact, communicate, and collaborate with humans and other AI systems. The five-level hierarchy of AI-SQ, ranges from basic communication to co-creative collaboration.
The research concludes by advocating for the development of AI systems with more "human-like" qualities, emphasizing emotional-social intelligence, creativity, moral-ethical decision-making, and attentional intelligence. Such AI systems, would be better suited to understand and interact with humans in meaningful ways, tackling complex cognitive tasks, emotions, and social interactions. A comprehensive framework for understanding future AI systems, underscoring the importance of human-inspired multi-intelligence approaches in their development.

KEYWORDS: Human-AI Collaboration, Metaverse, Future, Scenarios, AGI, Multiple Intelligence, Emotional Intelligence, Social Intelligence, Creative Intelligence, Moral-Ethical Intelligence, Dynamic Environments.

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HOW AI IS INSPIRING NEW STARTUP CONCEPTS AND DISRUPTING TRADITIONAL INDUSTRIES

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ABSTRACT:
The rapid evolution of Artificial Intelligence (AI) is reshaping the entrepreneurial landscape, driving innovation, and creating unprecedented opportunities across industries. AI's ability to process vast amounts of data, automate complex tasks, and generate insights has led to the emergence of new startup ideas, enabling entrepreneurs to disrupt established industries with innovative solutions.
The role of artificial intelligence (AI) is undergoing significant transformation within management and organizational practices, leading to visible impacts on core competencies and business processes, such as knowledge management and customer outcomes. This shift in technology is reshaping the way businesses manage their operations, handle knowledge, and deliver value to customers. The potential for AI to create disruptive innovation and transform the global competitive landscape is particularly evident in the startup ecosystem, where agile and innovative companies leverage AI's power to redefine their business models, streamline operations, and improve decision-making.
This research paper highlights the transformative power of AI in both inspiring new startup concepts and disrupting traditional industries. AI has enabled startups to tackle complex challenges in areas such as healthcare, finance, agriculture, and retail, fostering innovation and creating new business opportunities. By leveraging AI's capabilities in automation, data analysis, and predictive modeling, startups are finding ways to improve efficiency, offer personalized solutions, and create entirely new markets. At the same time, AI is reshaping traditional industries by streamlining operations, reducing costs, and improving decision-making processes through automation and real-time data analytics
From enhancing operational efficiency to revolutionizing customer experiences, AI is at the forefront of transforming business models. However, this AI-driven transformation presents both benefits and challenges. While AI offers the potential for scaling businesses, improving decision-making, and enhancing competitiveness, it also raises concerns related to ethical use, data privacy, and the displacement of traditional jobs. This paper delves into the profound impact of AI on startups, focusing on the opportunities it presents, the disruptions it causes, and the obstacles it poses for new and existing ventures.
The primary purpose of this research is to examine how AI is inspiring the creation of new startup concepts and disrupting traditional industries. It aims to explore the transformative impact of AI on entrepreneurship and established businesses, while also addressing the ethical, regulatory, and resource challenges associated with AI adoption. This paper will assess both the opportunities AI presents for startups and how traditional industries are being reshaped by AI technologies. Through this analysis, the research seeks to offer insights into the future trajectory of AI's influence on the business world, providing guidance for entrepreneurs, business leaders, and policymakers in navigating the rapidly evolving landscape of AI-driven disruption.

KEYWORDS: Artificial Intelligence, Startups, AI-driven transformation, Traditional Industries

AN EXPLORATION INTO HYBRID QUANTUM NEUROMORPHIC COMPUTING

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ABSTRACT:
Hybrid quantum-neuromorphic computing is an emerging paradigm that combines components of quantum computing and neuromorphic computer architectures. This innovative method seeks to solve challenging computing issues by utilizing the advantages of quantum information processing and neural network-inspired algorithms. This hybrid paradigm increases processing power for activities like pattern recognition and optimization by using quantum processors to carry out quantum algorithms. In the meantime, the design of the human brain serves as inspiration for neuromorphic computing principles, which make it easier to simulate neural networks effectively for applications like artificial intelligence and machine learning. The combination of neuromorphic and quantum components enables the creation of computing systems that are more versatile and potent, possibly overcoming some of the drawbacks of traditional computer designs. Quantum computing has several applications, including cryptography, optimization, simulation of quantum systems, machine learning and AI, drug discovery and molecular modeling, financial modeling, supply chain and logistics, climate modeling, and traffic optimization. The hybrid approach also opens avenues for real-time processing and adaptability in applications requiring immediate response. However, it introduces integration challenges that demand innovative engineering solutions and new hardware designs. Addressing scalability issues is crucial for maintaining performance and reliability in hybrid systems. This paradigm may lead to the development of new algorithms leveraging both quantum and neuromorphic principles and allow for application-specific custom solutions that maximize efficiency. It fosters cross-disciplinary innovations, impacting fields like neuroscience, cognitive science, and materials science. Neuromorphic systems' efficient data handling, combined with quantum computing's ability to manage complex computations, could lead to more efficient data processing frameworks. Additionally, enhanced security protocols and encryption methods could be developed, and more natural and intuitive human-machine interactions might be achieved. This paper focuses on developing scalable, energy-efficient systems with advanced quantum algorithms tailored for neuromorphic tasks, seamless integration of quantum and neuromorphic components, and real-time adaptive processing capabilities. Additionally, improvements in error correction, security, and interdisciplinary education will drive the field forward. Lastly, the emergence of hybrid quantum-neuromorphic computing describes new educational and training programs to develop interdisciplinary expertise.

KEYWORDS: Hybrid quantum neuromorphic computing, processing power, artificial intelligence, pattern recognition.

AI DRIVEN HUMAN RESOURCE AND TALENT ACQUISITION

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ABSTRACT:
Artificial Intelligence (AI) is revolutionizing lives & all business areas, the most common service domain in business is Human Resource Management (HRM) and Talent Acquisition, where it is transforming conventional HR practices. This study explores the strategic implementation of AI-based solutions in HRM to improve operational efficiency, precision, and sustainable business development. By leveraging machine learning algorithms, predictive analytics, and natural language processing (NLP), organizations can greatly enhance various processes, including recruitment, employee engagement, and workforce planning.
In the area of talent acquisition, AI technologies facilitate the automation of time-consuming tasks such as resume evaluation, candidate alignment, and interview coordination. For example, AI-driven platforms like HireVue and Pymetrics utilize video interviews alongside behavioural analysis algorithms to evaluate a candidate's fit, assessing attributes such as emotional intelligence, cognitive skills, and personality characteristics. This approach not only accelerates the recruitment process but also reduces human biases in hiring decisions. Machine learning models can analyse extensive candidate data, uncovering trends and insights that HR professionals may miss, thereby enhancing the chances of selecting the most suitable candidates. Unilever, for instance, has adopted an AI-enhanced recruitment system that employs game-based assessments and algorithmically analysed video interviews, resulting in a 75% reduction in time-to-hire.
In addition to recruitment, AI's influence extends to employee retention and performance management. Through predictive analytics, organizations can proactively identify employees who may be at risk of leaving and implement focused retention initiatives. AI-driven systems, such as Workday and SuccessFactors, evaluate employee performance metrics to offer customized career development suggestions, providing immediate feedback and personalized learning experiences. This fosters greater employee satisfaction and retention, ultimately benefiting the organization as a whole.
In conclusion, AI-driven HRM is a path to strategic advantage by streamlining processes, improving decision-making, and fostering a more agile workforce. Yet, it is crucial to balance this with ethical considerations, ensuring AI technologies enhance human potential without compromising fairness or transparency. This research highlights the importance of responsible AI governance to fully harness the benefits of AI in HRM and talent acquisition.

KEYWORDS: include artificial intelligence, human resource, recruitment, talent acquisition, automation, predictive analytics, management, information technology, strategies, employment.

COLLABORATIVE CONVERGENCE OF ARTIFICIAL INTELLIGENCE IN CLOUD COMPUTING: A COMPREHENSIVE REVIEW

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ABSTRACT:
The convergence of Artificial Intelligence (AI) and cloud computing has emerged as a critical area of research, significantly transforming the way data is processed, analyzed, and utilized across various domains. This paper examines the synergistic integration of AI with cloud computing, which leverages the scalability, flexibility, and cost-efficiency of cloud infrastructure to support the development, deployment, and management of sophisticated AI models. Cloud platforms such as Amazon Web Services (AWS), Microsoft Azure, and Google Cloud Platform (GCP) provide extensive AI tools and services, including machine learning frameworks, pre-trained models, and application programming interfaces (APIs), that simplify and accelerate AI research and development.
AI-enabled cloud computing environments offer numerous advantages, such as access to high-performance computing resources, the ability to process vast datasets in real-time, and the facilitation of collaborative research efforts. These benefits make cloud platforms an essential enabler for cutting-edge research in fields like healthcare, finance, environmental science, and robotics, where large-scale data analysis and complex model training are vital. By utilizing cloud-based AI services, researchers can overcome traditional barriers associated with hardware limitations and infrastructure costs, leading to increased innovation and the democratization of AI technology.
Despite the benefits, the integration of AI in cloud computing there are challenges related to data privacy, security, and regulatory compliance. Issues such as data breaches, unauthorized access, and biases in AI algorithms highlight the need for robust governance frameworks and ethical guidelines to ensure responsible use. Additionally, this paper explores emerging trends, including edge AI, federated learning, and server less architectures, which are shaping the future of AI research in cloud environments by enabling more efficient data processing, reducing latency, and improving scalability.
The fusion of AI and cloud computing represents a transformative paradigm for research, driving significant advancements in various scientific fields while posing new challenges that require careful consideration. As cloud platforms continue to evolve, their role in AI research will become increasingly important, offering a fertile ground for innovation, collaboration, and the development of next-generation AI technologies.

KEYWORDS: Artificial Intelligence, Cloud Computing, Machine Learning, Data Privacy, High-Performance Computing, Federated Learning, Edge AI, AI Governance

BLOCK CHAIN AND MACHINE LEARNING INTEGRATION FOR ENHANCED DATA ANALYTICS

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ABSTRACT :
The convergence of block chain technology and machine learning represents a groundbreaking advancement in the field of data analytics, particularly as the world grapples with the challenges posed by the ever-growing volumes of data. Block chain's decentralized, immutable ledger provides a robust foundation for ensuring data security, integrity, and transparency, while machine learning offers sophisticated tools for analyzing and interpreting vast amounts of data. When combined, these technologies can create a powerful synergy that not only addresses existing data management challenges but also opens new avenues for innovation across various industries.
Block chain technology is known for its ability to maintain a secure, tamper-proof record of transactions or data exchanges. This characteristic is particularly valuable in scenarios where data integrity and provenance are critical, such as in financial transactions, healthcare records, and supply chain management. By providing a transparent and auditable trail of data, block chain ensures that data has not been altered or tampered with, enhancing trust among stakeholders. Additionally, the decentralized nature of block chain eliminates the need for intermediaries, reducing costs and improving efficiency.
On the other hand, machine learning, with its capacity for pattern recognition, prediction, and automation, plays a crucial role in making sense of large datasets. Machine learning algorithms can analyze complex data patterns and make predictions or decisions based on the insights they derive. By integrating machine learning with block chain, organizations can develop models that are both secure and transparent, as well as capable of handling vast amounts of data in real-time. This integration enables more accurate and trustworthy analytics, which is essential for decision-making in data-driven environments.
The synergy between these two technologies has significant implications for various sectors. For example, in healthcare, the integration of block chain and machine learning can enhance the security and privacy of patient records while also enabling advanced predictive analytics for personalized medicine. In the financial sector, these technologies can help detect fraud, automate regulatory compliance, and provide more transparent and efficient transaction processing. Similarly, in supply chain management, block chain can provide an immutable record of goods as they move through the supply chain, while machine learning can predict potential disruptions or optimize logistics.
Moreover, the Internet of Things (IoT) is another domain where the combination of blockchain and machine learning can be transformative. IoT devices generate massive amounts of data that need to be securely stored and analyzed in real-time. Block chain can ensure the security and integrity of the data collected from these devices, while machine learning can be used to analyze this data for patterns and insights that can improve operational efficiency, predictive maintenance, and decision-making processes.
This paper offers a robust solution to many data-related challenges across various industries by the integration of block chain and machine learning using the strengths of both technologies, organizations can achieve more secure, transparent, and efficient data analytics, paving the way for a new era of innovation and growth. This convergence not only enhances the value of data but also reinforces trust among stakeholders, enabling more informed decision-making and fostering a culture of transparency and accountability.

KEYWORDS: Block Chain, Machine Learning, IoT, Data Analytics, pattern Recognition

INVESTIGATE METHODS FOR DESIGNING AND IMPLEMENTING RESILIENT DISTRIBUTED SYSTEMS THAT CAN TOLERATE FAULTS AND FAILURES GRACEFULLY

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ABSTRACT:
In today's interconnected digital landscape, resilient distributed systems are essential to ensure continuous operation and reliability amidst various faults and failures. This study explores methodologies for constructing such systems, focusing on their ability to tolerate faults while maintaining functionality. The study discusses a number of methods for designing and implementing Resilient distributed system with their advantages and limitations. The initial section examines fault tolerance mechanisms, including redundancy, replication, and error detection techniques. Redundancy duplicates critical components to mitigate failures, while replication disperses data or processes across multiple nodes for enhanced availability. Error detection mechanisms, such as checksums and heartbeat protocols, enable prompt fault identification and response. Subsequently, the paper addresses fault isolation strategies aimed at containing failures and preventing cascading effects. Techniques like compartmentalization and sandboxing confine faults to specific components, minimizing their impact on the overall system. Additionally, graceful degradation mechanisms allow systems to adjust functionality in response to failures, ensuring essential services remain accessible. Moreover, the study explores monitoring and recovery mechanisms vital for fault detection and system restoration. Continuous monitoring of system health enables proactive fault detection, while automated recovery processes streamline service restoration post-failure.
Designing and implementing resilient distributed systems demands a multifaceted approach integrating fault tolerance mechanisms, fault isolation strategies, distributed consensus algorithms, monitoring, recovery mechanisms, and organizational practices. This paper presents the guidelines and directions for the development of new novel approach for designing and implementing Resilient distributed system. The paper also takes an overview of various methods and discusses their respective advantages and limitations.

KEYWORDS: Distributed systems, Resilience, Fault tolerance, Networked computers, Message passing, Failure recovery, Disruptions, Graceful handling, Strategies, Comprehensive understanding.

USE OF AI IN MARKETING AND CUSTOMER ENGAGEMENT: AN OVERVIEW

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ABSTRACT:
Artificial intelligence (AI) has transformed many industries, and marketing is not left behind in the race. This research paper explores the transforming impact of AI on marketing strategies and customer engagement. Businesses that utilise AI-powered tools and strategies can obtain deeper insights into consumer behaviour, personalise marketing campaigns, and contribute to satisfaction with clients. Customer engagement is an important non-financial indication of company's achievement in digital marketing strategy.
The review paper starts by explaining the fundamental ideas of AI and its different uses in marketing, including predictive analytics, chatbots, personalisation, and sentiment analysis. It furthermore explores the benefits of incorporating AI into marketing strategies, including enhanced customer segmentation, improved targeting, increased automation, and improve real-time decision-making capabilities. The study proceeds with how AI can be used to improve various marketing operations such as client segmentation, targeting, and personalisation. It discusses the advantages of AI-powered marketing, including increased customer acquisition, retention, and loyalty.
The paper examines the future prospects of AI in marketing, forecasting the emerging trends and potential disruptions. It emphasizes the need for continuous evolving and adaptation within the marketing profession in order to realise the full potential of AI and maintain competitiveness in a rapidly evolving world. AI can personalise interactive marketing experiences by adapting the challenges to particular consumer interests, resulting in deeper engagement. Algorithms may analyze massive volumes of client data and predict individual preferences and behaviors which helps targeted advertising, product recommendations, and AI-enabled content that correlates with specific consumer segments.
Furthermore, the paper explores the ethical implications of AI in marketing, addressing concerns related to data privacy and transparency. It highlights the importance of responsible AI usage and the need for ethical guidelines. Finally, the paper concludes by discussing future trends and opportunities in AI-enabled marketing, emphasizing the potential for continued innovation and growth in this field.

KEYWORDS: Artificial Intelligence (AI), Marketing, Customer Engagement, Insights, social media, Machine Learning, campaigns, strategies.

EMERGING TECHNOLOGIES: BLOCKCHAIN AND AI INTEGRATION

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ABSTRACT:
Emerging technologies such as artificial intelligence (AI) and blockchain are transforming different industries by offering numerous skills for data management, decision making and security. Fields such as healthcare, finance, supply chain and beyond are transforming due to huge potential of these powerful technologies. Blockchain, known for its decentralized, immutable ledger system, and AI, popular for its data-driven decision-making capabilities, together offer a compelling unity that reduces many of the limitations found in each individual technology.
In the rapidly growing digital era, Blockchain technology provides a way for secure, transparent, and tamper-proof transactions, ensuring trust and accountability. Its decentralized nature reduces even a single point of failure and reduces the risk of data manipulation. On the other hand, AI, with its advanced algorithms and machine learning models, allows the processing of vast amounts of data to generate insights, automate complex tasks, and make predictions.
The intersection of these two technologies creates new opportunities. For instance, AI can strengthen Blockchain to maintain the integrity of the data it processes, that results in improving the reliability of AI-driven outcomes. On the contrary, Blockchain can benefit from AI by enhancing scalability, efficient transaction validation, and improved network management. This integration can also take care of privacy issues by utilizing AI to handle and secure personal data on a Blockchain, ensuring that sensitive information remains secure yet accessible.
This research paper explores various scenarios and applications where Blockchain and AI integration is found beneficial. The research encompasses real-world examples from sectors such as finance, healthcare, supply chain management, and beyond. Additionally, this paper also look into the challenges and limitations of this integration, such as computational overhead, scalability issues, and regulatory concerns.
By analyzing current trends and future expectations, this paper aims to provide a deatiled overview of how Blockchain and AI can interact with each other to create more robust, secure, and intelligent systems. The paper also highlights the potential impact of this integration on innovation and efficiency, offering insights into how these technologies can collaboratively build the future of digital interactions and data management.

KEYWORDS: Blockchain, Immutable ledger system, Machine learning, Integrity, Data-driven decision making, Supply chain.

A COMPARATIVE ANALYSIS OF EQUI-JOIN ALGORITHMS IN MAP-REDUCE ENVIRONMENT

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ABSTRACT:
The Hadoop framework, developed by Apache, is used to manage distributed Big Data. MapReduce is a technique for processing Big Data in the Hadoop system, while HDFS (Hadoop Distributed File System) is used for storage and management of datasets. MapReduce does not support direct join algorithms, so Hive is used as a high-level language to process structured data on MapReduce. Equi-join operations are crucial for combining records from two or more datasets based on a common key, and their efficiency significantly impacts large-scale data analysis performance. This paper compares various equi-join algorithms, including Repartition, Broadcast, Semi-Join, Per-Split Semi-Join, and Bloom Join algorithms, focusing on their execution time and cost efficiency. Map-side Merge Join is highly efficient when dealing with pre-sorted datasets, but its reliance on pre-sorted data may limit its applicability in various scenarios. Partition Merge Join partitions datasets by the join key, reducing network overhead and enabling parallel processing. Both algorithms offer advantages depending on data preparation and sorting capabilities, with Partition Merge Join offering better efficiency in partitioned scenarios and Merge Join excelling with sorted data. The Reverse Map Join algorithm and the Broadcast Join algorithm are two MapReduce techniques for efficiently joining datasets. Reverse Map Join is particularly effective when one dataset is smaller than the other, as it broadcasts the smaller dataset to all map tasks. However, it may face challenges with larger datasets or high memory demands, making it preferred for smaller datasets. the Repartition Join Algorithm is more suitable for larger datasets, while smaller datasets perform better with the Broadcast Join Algorithm. However, the Selection of the Join algorithm depends on various factors.
The comparative study conducted in this research paper of Map-Reduce join algorithms provides insights into factors influencing their performance and discusses practical considerations to select the most suitable algorithm for specific use cases. The findings contribute towards understanding of Map-Reduce join algorithms' performance characteristics and aid practitioners in optimizing big data processing pipelines in the Hadoop framework.

KEYWORDS: Map-Reduce, Join Algorithms, Hadoop Framework, Execution Time

OPTIMIZING TEXT-TO-IMAGE DIFFUSION CONTROL WITH CONTROLNET-XS: A COMPREHENSIVE SURVEY

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ABSTRACT:
In recent years, the field of image synthesis has undergone significant advancements, with techniques like text-to-image generation revolutionizing how images are produced from textual descriptions. One intuitive method to enhance the quality and control over the output images is through the incorporation of spatial guidance, such as depth maps or other structural cues. This approach allows users to guide the model in generating images that conform to certain spatial constraints, adding a new level of precision and flexibility to the synthesis process. A popular technique for achieving this is combining a controlling network, such as ControlNet, with a pre-trained image generation model, like Stable Diffusion. ControlNet provides a mechanism for integrating additional control signals during the generation process, enabling fine-grained control over the final image.
However, upon analyzing existing controlling networks, it has been observed that delay in information flow between the generative process and the controlling mechanism. In traditional architectures like ControlNet, the controlling network must not only influence the image generation process but also possess some generative capabilities of its own to compensate for this lag. This leads to inefficiencies, with controlling networks needing to be overly complex, containing numerous parameters to handle both tasks effectively. As a result, these networks tend to be slower, requiring more computational resources during both the inference and training phases, which hampers their practical utility in real-time or large-scale applications.
This research work presents ControlNet-XS as a novel controlling architecture designed to address the issues of information delay and inefficiency in current models. ControlNet-XS fundamentally rethinks the interaction between the controlling and generative networks, ensuring that the controller focuses solely on its intended task: influencing the image generation process without needing generative capabilities. This separation of responsibilities is achieved by creating a more direct and efficient communication pathway between the controlling network and the generation model, reducing the complexity of the controller and allowing for faster information transfer.
ControlNet-XS achieves several key advantages over existing models. First, it operates with significantly fewer parameters, reducing the model's size and computational burden. Despite this, it outperforms larger models in both speed and image quality. During inference and training, ControlNet-XS is approximately twice as fast as ControlNet, making it a more practical choice for applications requiring rapid image generation, such as content creation, real-time rendering, and interactive design tools. Additionally, the reduced parameter count does not come at the cost of performance. In fact, ControlNet-XS generates images of superior quality, with more accurate adherence to the provided spatial guidance, resulting in images that are more realistic and visually appealing.
The second major advantage of ControlNet-XS is its enhanced control fidelity. While existing models can sometimes struggle to apply spatial guidance with high precision, leading to distortions or inaccuracies in the final image, ControlNet-XS ensures that the control signals-whether they be depth maps or other forms of spatial guidance-are applied with much greater fidelity. This allows for more precise control over the generated image, enabling users to produce outputs that more closely align with their desired specifications.
ControlNet-XS represents a step forward in the design of controlling architectures for text-to-image synthesis. By addressing the inefficiencies of current models and streamlining the control process, it offers a faster, more efficient, and higher-quality solution for integrating spatial guidance into image generation. As a result, it opens up new possibilities for real-time applications, interactive content creation, and other areas where both speed and control are critical. All code and pre-trained models associated with this work will be made publicly available, allowing the broader community to build upon and benefit from this new approach.

KEYWORDS: ControlNet-XS, Text-to-Image Diffusion, Image Generation Model

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IMPACT AND IMPORTANCE OF GAN IN CURRENT SCENARIO: AN OVERVIEW

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ABSTRACT :
Generative Adversarial Networks (GANs) were introduced by Ian Goodfellow and his team. In 2014. GANs employ an adversarial framework in which two neural networks, a generator and a discriminator, compete against each other. The generator creates new data samples, such as images, while the discriminator evaluates these samples and attempts to distinguish between real and fake data. This adversarial process pushes both networks to improve simultaneously—the generator learns to produce data that resembles real samples, while the discriminator becomes better at detecting generated data. The primary goal of the generator is to fool the discriminator by creating data that is indistinguishable from real data. Conversely, the discriminator's job is to correctly classify whether a given sample is real (from the training dataset) or fake (produced by the generator). Over time, through repeated iterations, the generator improves its ability to create highly realistic data, and the discriminator enhances its classification accuracy. This adversarial setup forces the generator to learn the underlying distribution of the data and generate outputs that closely mimic the real world. One of the key reasons GANs have become so popular is their ability to generate high-quality images with remarkable diversity. They have been successfully applied in several domains, including image generation, where GANs are used to create new, highly realistic images from scratch. In addition, GANs have made a significant impact on style transfer, allowing images to be transformed into various artistic styles, and data augmentation, where GANs are used to generate additional training data for improving machine learning models. Beyond visual tasks, GANs have also found applications in fields like drug discovery and protein structure prediction, where generating novel molecules with specific properties can be crucial. Although they have been successful, training GANs is famously difficult due to challenges such as training instability and mode collapse. Training instability occurs in GANs because their adversarial relationship can
use the loss function to oscillate or diverge, complicating the convergence of the generator and discriminator to a stable equilibrium. Mode collapse occurs when the generator produces a narrow range of outputs, failing to capture the diversity present in the real data distribution. This is problematic as the generator is unable to encompass the entire spectrum of the target data.To address these challenges, researchers have proposed various improvements to the original GAN architecture. One of the most notable advancements is the Wasserstein GAN (WGAN), which addresses training instability by replacing the original GAN loss function with a more stable and meaningful one based on the Earth Mover's Distance (Wasserstein distance). WGAN significantly improves the stability of the training process, leading to better performance and convergence. Additionally, StyleGAN has introduced a new architecture that enables fine control over image generation, especially in terms of style and structure. By introducing layers that allow for independent control of different aspects of the image, StyleGAN has set a new standard for high-quality image synthesis.
As GANs continue to evolve, they are expected to play an increasingly important role in a wide range of fields. In art and design, GANs are already being used to generate new creative works, from paintings to fashion designs. In scientific research, GANs can be used to model complex systems, simulate data for rare events, or generate new hypotheses. The potential for GANs to impact areas like medical imaging, game development, and even artificial creativity is immense. This paper describes how GANs can fundamentally transform generative modeling; challenges such as stability and diversity remain active areas of research. Continued advancements like WGAN and StyleGAN are paving the way for more robust and effective GAN models..

KEYWORDS: Generative Adversarial Networks , WGAN, StyleGAN,

AI IN FINTECH: DISRUPTIONS AND OPPORTUNITIES

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ABSTRACT :
Artificial Intelligence has emerged as a transformative force in FinTech, considerably altering the financial industry through the automation of processes, enhancement in decision-making, improvement in customer experiences, and the introduction of new business models. Resulting from this disruption are several opportunities created that help drive efficiency, innovation, and growth within financial services. Fintech AI Disruptions: The impact of AI in fintech can be assessed across multiple domains: banking, investment management, insurance, and payments. The most critical discontinuities are in the automation of processes that hitherto have been the domain of human intervention. From loan approvals to credit scoring, fraud detection, and other customer services, AI-powered algorithms and machine learning models are increasingly being employed. These applications facilitate processes much more efficiently, amply economize on costs, and reduce errors. AI has completely altered the face of fraud detection through real-time processing of huge volumes of data in search of patterns, flagging activities that look suspicious and couldn't normally be detected with traditional systems. This has significantly improved the security of financial transactions and reduced the possibility of financial crimes.
The other major field where disruption is happening is in customer service, whereby AI chatbots and virtual assistants are providing support 24x7-answer queries, and helping consumers manage finances. These AI-driven solutions have the ability to offer personalized experiences by considering user behavior and transaction history for raising tailored recommendations. This depth of personalization enables financial institutions to forge better customer relationships and improve retention. AI has invaded the investment management space as well, especially in the now common use of robo-advisors. Digital platforms use algorithms to provide individually tailored investment advice and portfolio management at a fraction of the cost of traditional financial advisors. Capable of analyzing market trends and forecasting risks, robo-advisors make decisions based on their clients' financial goals and risk tolerance, democratizing access to sophisticated investment strategies.
With regard to Fintech Opportunities, AI disrupts traditional financial models but it simultaneously opens huge avenues for innovation and growth. The major benefits that fintech companies can reap from AI include handling big data to make better decisions. AI-driven analytics can extract deep insights about customer behaviour, market tendencies, and risk factors for financial institutions. This allows for evidence-based decisions on credit risk assessments, portfolio management, and product development. AI also furthers financial inclusions through expanded access to services. Conventional financial systems exclude most with narrow credit histories or predominantly from under-served areas. However, AI-powered platforms can evaluate alternative information such as social media activity or use of mobile phones to estimate the creditworthiness of an applicant. This helps banks and Fintech companies extend such services like microloans and insurance that have so far remained beyond the reach of unbanked and underbanked populations.
Not to mention, AI drives the innovation in payment systems. From digital wallets and peer-to-peer payments to cryptocurrencies, AI is applied for security and speed in all of these transactions. Blockchain itself, tightly connected with FinTech, welcomes AI into the orbits of smart contract execution, fraud detection, and DeFi applications. In effect, while AI in FinTech is still developing with the regulatory landscape, opportunities abound for fintech firms to work with regulators in building such frameworks that would assure ethical use of AI, which protects consumer rights and financial stability. This paper focuses on AI integration with fintech that has completely revolutionized processes, created efficiencies, and created a whole new avenue for the potentiality of growth. While there are still challenges to overcome, one of the most pertinent being that of regulation and data privacy, the potential for innovation, financial inclusion, and general improvements in customer experiences is so extensive that AI is likely to be among the cornerstones of the future of financial services.

KEYWORDS: Artificial Intelligence, FInTech Companies, financial institutions, robo-advisors.

AI FOR SIGNAL AND IMAGE PROCESSING: TRANSFORMING AND OPTIMIZING PROCESSES

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ABSTRACT:
Artificial Intelligence (AI) has become a powerful tool in signal and image processing, revolutionizing the way signals (such as audio, speech, and sensor data) and images (such as photographs, videos, and medical scans) are analyzed and interpreted. AI algorithms, particularly machine learning (ML) and deep learning (DL) techniques, have introduced significant advancements in various domains, enabling faster and more accurate processing, improved pattern recognition, and automation of complex tasks that were once dependent on human intervention.

AI in Signal Processing

Signal processing involves the manipulation and analysis of signals to extract valuable information. Traditionally, signal processing relied on mathematical models and transformations such as Fourier transforms, wavelets, and filters. With the advent of AI, especially ML and DL, the landscape of signal processing has transformed. AI techniques are now used to analyze large-scale data streams, enhance signal quality, and automate feature extraction, leading to more efficient and accurate signal processing.

One of the most prominent applications of AI in signal processing is in speech recognition and natural language processing (NLP). AI models like recurrent neural networks (RNNs) and long short-term memory (LSTM) networks are extensively used to process and analyze speech signals, enabling technologies such as virtual assistants (e.g., Siri, Alexa), real-time language translation, and automated transcription services. AI-driven noise reduction and echo cancellation techniques are also improving the quality of speech signals in telecommunications and audio systems.

AI has also transformed the field of biomedical signal processing. For example, AI algorithms are used to analyze electrocardiograms (ECGs), electroencephalograms (EEGs), and other physiological signals to detect abnormalities such as arrhythmias, epileptic seizures, or other medical conditions. This allows for early diagnosis and personalized treatments, making healthcare more efficient and accessible.

AI in Image Processing

Image processing deals with manipulating and analyzing images to extract information or enhance visual quality. AI, particularly convolutional neural networks (CNNs), has significantly impacted image processing by automating complex tasks such as object recognition, image classification, segmentation, and restoration.

One of the most remarkable achievements of AI in image processing is in the field of medical imaging. AI models are used to analyze X-rays, MRIs, CT scans, and ultrasounds to detect diseases such as cancer, brain tumors, and cardiovascular conditions. These models often outperform human experts in terms of accuracy and speed, leading to more reliable diagnostics and treatment planning. In addition, AI-driven image segmentation is used to delineate organs and tissues in medical scans, aiding in precision surgery and treatment.

In the realm of computer vision, AI has empowered applications like facial recognition, autonomous driving, and surveillance systems. For instance, AI models can recognize objects, people, and activities in real-time video streams, facilitating the development of self-driving cars and smart city technologies. Similarly, AI-powered image enhancement techniques are used to restore low-resolution or corrupted images, which has applications in areas like satellite imaging, security, and entertainment.

Furthermore, AI techniques such as generative adversarial networks (GANs) are being used for image synthesis and enhancement, producing hyper-realistic images or improving image quality in industries like fashion, film, and gaming.

Challenges and Future Directions

Despite its many successes, AI for signal and image processing faces challenges such as the need for large datasets, computational complexity, and interpretability of results. AI models can be data-hungry, requiring extensive labeled data for training. Additionally, the "black-box" nature of many AI models makes it difficult to understand how decisions are made, which is especially critical in areas like medical diagnostics. Future advancements in AI, such as explainable AI (XAI) and transfer learning, aim to address these challenges. XAI seeks to make AI models more interpretable and transparent, while transfer learning enables models to leverage knowledge from one domain to another, reducing the need for massive datasets. This paper describes how AI has profoundly transformed signal and image processing, opening new possibilities for automation, accuracy, and efficiency across various industries. As AI continues to evolve, it is poised to further revolutionize these fields, with applications ranging from healthcare and security to entertainment and communication.

KEYWORDS: Explainable AI (XAI), Signal Processing, Image Processing,

ROLE OF AI FOR TRANSFORMING TEACHING-LEARNING PROCESS IN 21ST CENTURY

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ABSTRACT:
Transforming learning experience through Artificial Intelligence (AI) in the teaching-learning process at the tertiary level of education embodies a significant shift in education system of the world. AI can enhance both the quality and accessibility of learning experiences. AI-driven learning systems are capable of gathering and evaluating data on student progress, learning styles, and classroom performance. This helps the instructors modify the course content as well as the delivery method based on each student's pace of learning, preferences, and personalized needs. AI technologies offer several opportunities to reshape traditional teaching-learning models, making them more personalized, efficient, and accessible. AI transforms the teaching-learning process through personalized learning, adaptive learning systems, smart content creation, intelligent tutoring systems, automated grading and feedback, data-driven insights, enhancing accessibility, virtual classrooms and AI assistants, and predictive analytics. Using AI, instructor can design personalized learning paths for each student, take into consideration their learning preferences, strengths and weaknesses, and give students personalized feedback that increase the effectiveness in classroom learning. Hence, AI enhances both teaching and learning by creating adaptive learning environments, streamlining administrative tasks, and providing insightful data. However, the successful integration of AI into teaching-learning process depends on addressing challenges like equity, privacy, and training of the educators.

KEYWORDS: Transforming Learning, Artificial Intelligence, Teaching-Learning Process

ENHANCING USER EXPERIENCE AND ACCESSIBILITY THROUGH AI-DRIVEN SPEECH RECOGNITION IN CONVERSATIONAL INTERFACES

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ABSTRACT:
With rapid changes in technology and the growing use of AI, Artificial Intelligence has made the technological world smarter. Every component has become more engaging, which makes interfaces more user-friendly. This study aims to investigate the integration of one of AI's powerful applications: Speech Recognition and Conversational Interfaces, which have enhanced user experience and accessibility on digital platforms. Many institutions, multinational companies, hospitals, banks, and others are utilizing these applications, enabling users and clients to connect and obtain the information they need.
With the help of Speech Recognition, we can dictate text, give voice commands, and convert speech into written notes. However, tools used to create these apps, like Figma and Adobe software, currently lack built-in Speech Recognition and Conversational Interface features. This means that while we can use these capabilities in some apps, the tools which are used to design and develop such applications do not yet support such features.
Design platforms like Adobe XD and Figma are crucial for UI/UX professionals, but their complexity can make it hard to navigate deep menus and find specific properties. Shortcut keys are effective for experienced users in improving efficiency and reducing time, but they require memorization and can be less intuitive for newcomers. This integration is designed to work together with existing methods like shortcut keys, providing an additional, more user-friendly option. Instead of relying solely on shortcut keys, which require users to remember specific key combinations, the new system allows users to perform tasks using simple voice commands. This means that users can quickly execute actions and access features without having to navigate through complex menus or memorize shortcuts. By making tasks faster and more intuitive, this voice-driven system enhances accessibility for all users, helping them to be more productive and efficient in their work.
We propose a system leveraging AI and Speech Recognition to enhance UI/UX design by enabling users to issue natural language commands, such as "Open properties panel," "Change font size to 16," or "Find alignment options." This human-centred design approach allows for voice navigation, making it easier for users to interact with design tools and access features. The system supports personalized recommendations by adapting to user commands and preferences, thus providing contextual assistance and tips. By reducing the learning curve and streamlining workflows, this solution aims to revolutionize the way designers engage with platforms, creating a more intuitive and efficient experience.

KEYWORDS: AI, Speech Recognition, UI/UX Design, NLP, Human-Centred Design, Voice Navigation, Personalized Recommendations, Workflow Efficiency, Design Tools, Command Execution, Intuitive Experience

AI IN FINANCE AND RISK MANAGEMENT

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ABSTRACT:
The banking sector is utilizing the power of AI to improve efficiency, accuracy, and decision-making in Finance & Risk Management. Traditionally financial pricing and assumption decisions were based on historical experiences and human judgement, which can be slow (and often incorrect). The vision of Artificial Intelligence (AI) in Finance is to establish a collaborative and innovative environment that benefits both supervisory bodies and regulated institutions. The primary aim is to connect these two key stakeholders by organizing a research discussion forum that serves as a platform for sharing risk measurement solutions tailored to the needs of both regulated institutions and regulators.AI can analyse large volumes of facts quickly, as well as detect patterns that human experts would not be able to notice which helps in making more well-informed decisions. Financial basics use artificial intelligence to adjust directors for each user's personal. By analysing a client's historical financial record, behaviour, and motivators; AI can deliver personalized advice & product suggestions.
This personalization helps financial associations to meet the demands of their clients more effectively and increase client compensation. In the scope/framework of risk organization, AI enhances its capabilities to detect and manage risks.
Traditional hazard administration is usually based on trusted data and judgment, which may not fully grab emerging threats. AI, however, can process real-time data and identify threats like false positives or sudden market changes. An example of this is AI which monitors connections and notices strange patterns; even long before they turn out to be fraud, you can act in advance of interference preventing the damage which can cause financial losses.
Some of these advantages, monetizing replicated intelligence in an even money and public relations-board presentences problems such as data security issues or the need for human management.
This paper discusses the shortcomings of traditional financial processes and highlights the potential of AI and Large Language Model (LLM) to enhance efficiency, accuracy, and cost-effectiveness in financial sector. It highlights the benefits of AI in finance in increasing accuracy, scalability while looking for challenges with their deployment. Key challenges include data integration, model training, transparency. The paper further explores future directions, highlighting the necessity for progress in AI explainability, fairness, and robustness. It also underscores the importance of interdisciplinary research and collaboration in these areas.

KEYWORDS: Artificial intelligence, financial services, large language models, natural language processing, financial risk management.

OPTIMIZING WAREHOUSE OPERATIONS THROUGH AUTONOMOUS MOBILE ROBOTS: A COMPREHENSIVE ANALYSIS

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ABSTRACT:
The purpose of this paper is to evaluate the impact of Autonomous Mobile Robots (AMRs) on warehouse operations, focusing on efficiency improvements and the challenges associated with their deployment. As the logistics and warehousing industries strive to enhance productivity and reduce operational costs, AMRs have emerged as a promising solution. This study aims to provide a comprehensive analysis of how AMRs can optimize warehouse workflows, address the specific challenges encountered during their integration, and suggest strategies for overcoming these obstacles.
This research presents several significant findings regarding the deployment of AMRs in warehouse settings. Firstly, the introduction of AMRs has led to a substantial increase in operational efficiency. Specifically, warehouses utilizing AMRs have reported a 30% improvement in order fulfillment speed and a 25% reduction in labor costs. This is primarily due to the robots' ability to handle repetitive tasks such as material transport and order picking with high precision and consistency.
Secondly, this paper observes that AMRs contribute to enhanced inventory management. By leveraging real-time data and advanced navigation algorithms, these robots can reduce errors in inventory tracking and streamline stock replenishment processes. The accuracy of inventory data improved by approximately 20% in warehouses equipped with AMRs compared to those without. However, the deployment of AMRs is not without its challenges. Key issues include the high initial investment costs, integration complexities with existing warehouse management systems, and the need for ongoing maintenance and updates. Additionally, there are concerns regarding the robots' ability to operate effectively in dynamic environments with varying obstacles and human traffic.
The implications of these findings are multi-faceted. For industry practitioners, the results highlight the potential for AMRs to transform warehouse operations by enhancing efficiency and accuracy. This can lead to significant cost savings and improved customer satisfaction due to faster order fulfillment. However, practitioners must also consider the initial investment and integration challenges associated with AMRs. Strategic planning and investment in robust system integration are crucial for maximizing the benefits of these technologies. For researchers and developers, the findings underscore the need for ongoing innovation in AMR technology. Future research should focus on improving the adaptability of AMRs to dynamic warehouse environments, developing more cost-effective solutions, and addressing maintenance challenges. Furthermore, advancements in AI and machine learning could enhance the decision-making capabilities of AMRs, making them more versatile and effective in a broader range of scenarios. In this research paper, I have explored various scenarios and applications where AMRs are used just like Amazon Robotics (formerly Kiva Systems) which uses over 500,000 Autonomous Mobile Robots (AMRs) across its fulfillment centers to optimize operations. These robots transport shelving units (called "pods") filled with products to human workers at stationary stations, reducing the time spent walking and increasing picking efficiency. By using this Amazon reduces labor costs, increases warehouse throughput, and optimizes space utilization by narrowing aisles and then DHL Supply Chain which implemented AMRs from companies like Locus Robotics in its warehouses. These robots autonomously navigate the warehouse, assisting human workers by carrying products to designated locations. This reduces walking time for employees, improves picking accuracy, and allows faster order fulfillment. DHL reported a 50% improvement in productivity after deploying AMRs in certain facilities.
This paper aims to compare the impact of Autonomous Mobile Robots (AMRs) on warehouse operations, focusing on efficiency improvements and the challenges of deployment. As the logistics and warehousing sectors look to enhance productivity and reduce costs, AMRs have emerged as a potential solution. The study provides a comparative analysis of how AMRs influence warehouse workflows, addresses the specific challenges faced during their integration, and highlights strategies for overcoming these obstacles.

KEYWORDS: Autonomous Mobile Robots, Warehouse Operation Efficiency, Inventory Management, Robotics Integration

INTELLIGENT RECOMMENDATION SYSTEM WITH ADVANCED AI AND LEARNING: A BUSINESS PERSPECTIVE

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ABSTRACT:
Recent developments in AI have significantly enhanced the capabilities of recommendation systems. Deep learning models, such as recurrent neural networks (RNN) and convolutional neural networks (CNN), have been utilized to capture the temporal dynamics of user preferences. Meanwhile, hybrid models that combine collaborative filtering, content-based filtering, and knowledge graphs show exceptional potential in mitigating cold-start problems and improving recommendation accuracy. Reinforcement learning approaches have proven effective in continuously adapting to user preferences in real-time, leading to more dynamic and personalized recommendations.
The integration of knowledge-based systems and graph neural networks (GNNs) has further strengthened the recommendation frameworks, enabling a more context-aware and interpretable recommendation process. Key research results indicate that the hybridization of AI models consistently outperforms traditional methods, particularly when dealing with sparse and high-dimensional data sets. Moreover, the introduction of transfer learning has allowed systems to generalize across different domains, thereby reducing the amount of training data required for optimal performance.
The increasing sophistication of recommendation systems has major implications for both industry and academia. From a commercial perspective, businesses that leverage these advanced AI-driven recommendation systems gain a competitive advantage by providing highly relevant and personalized services to their customers, which increases user engagement, retention, and satisfaction. In sectors such as retail, entertainment, and healthcare, AI-based recommendations can significantly improve the user experience by suggesting items or services that align with user preferences, leading to higher conversion rates and customer loyalty. This paper discusses potential solutions to these challenges, such as fairness-aware algorithms and privacy-preserving mechanisms, which ensure that recommendation systems remain equitable and secure. In this research paper, I have explored various scenarios and applications just like
Netflix's Personalized Content Recommendations which use deep learning algorithms to provide personalized movie and TV show recommendations. By leveraging collaborative filtering, content-based filtering, and neural networks, Netflix analyzes user behavior, viewing history, and preferences to suggest relevant content. The system continuously adapts in real-time, learning from each user's interactions and providing more accurate recommendations over time. Additionally, Netflix employs reinforcement learning to optimize the ordering of recommended titles on the homepage, enhancing user engagement and satisfaction. Amazon's Product which uses a sophisticated hybrid recommendation engine that combines collaborative filtering, content-based methods, and deep learning to recommend products. The system analyzes customer data, including browsing history, past purchases, and product reviews, to generate personalized product suggestions. It also integrates knowledge graphs to better understand product relationships and user preferences. This AI-driven system helps Amazon increase conversion rates and improve the shopping experience by offering relevant products that align with individual user preferences, even solving the cold-start problem for new users.
The aim of this paper is to explore the latest advancements in intelligent recommendation systems (RS) driven by AI and machine learning (ML). With the ever-growing demand for personalized services across various domains such as e-commerce, content streaming, and social media, recommendation systems have become a cornerstone of digital user experiences. This paper reviews both traditional approaches and contemporary techniques that leverage AI models, including deep learning, reinforcement learning, and hybrid methodologies, to deliver superior recommendations. Additionally, the study addresses the challenges, opportunities, and future directions for intelligent recommendation systems in a rapidly evolving technological landscape.

KEYWORDS: Recommendation systems, Artificial Intelligence, Deep Learning, Reinforcement Learning, Knowledge Graphs, Personalization

ROBOTICS AND AI: TRANSFORMING WORK ACTIVITIES & LABOR POWER IN INDUSTRIES

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ABSTRACT:
In the future, work activity and labor power will be transformed to the very core. This paper showcases on how robots and artificial intelligence (AI) will integrate to the national economy and give a completely different idea of human jobs and their place in the employment market. The paper starts with the ways the robots have been introduced into the respective economic systems before turning attention to the breadth of industries. So, the historical survey of robotics and robotics growing role in economic systems, enumerates the gradual attainment of robots by many industries. This agility is reflective of the wider technological progress and the enhanced AI capabilities. Subsequently, it proceeds to find out the economic outcomes of robotics and AI. AI will revolutionize the prevailing structures of world capitalism, passing from the human part to the mechanical one. The transition of labor tasks away to automation has an effect on the labor markets, economic productivity, and distribution of wealth. The issue is that this transformation will push you to move on with the new economic climate, so it is key to shift your lifestyle completely. We concentrate on the most important skills that employers will seek for and how schools must change and prepare their students with these skills. It necessitates a thorough consideration of the current educational standards and a focus on continuous learning so as to get individuals ready for the fast-evolving work market. In short, accentuate the need for a conceptual flip in the mind of the person regarding his/her place in the job market. The Research is in favor of the whole array of measures that the government can take apart from the infamous taxation policy. These will include by far requirements as well as policies that will protect job quality and will give clear paths and supports to the world of work.

KEYWORDS: Artificial Intelligence (AI), Automation , Robotics, Industries , Employment market ,Economics .

EXPLORING COMPUTATIONAL FINANCE METHODOLOGIES: A SYSTEMATIC AND COMPREHENSIVE OVERVIEW

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ABSTRACT:
The incorporation of computational technologies is transforming the financial industry, improving decision-making processes and changing established methodologies. With an emphasis on their applications, ramifications, and revolutionary possibilities in the contemporary financial landscape, this study offers a thorough examination of the function of computational finance techniques. This research offers a comprehensive understanding of how developments in machine learning, blockchain, agent-based modeling, and big data analytics are transforming financial activities like asset pricing, risk management, and portfolio optimization. It does this by synthesizing recent literature and real-world case studies. To provide a comprehensive understanding of its theoretical underpinnings and real-world applications, the multidisciplinary nature of computational finance—which includes data analytics, computer science, mathematics, and finance—is emphasized. The convergence of finance and computational techniques has been fuelled by technological developments in data processing capacity, algorithmic sophistication, and data availability. This has allowed for more accurate analysis, prediction, and optimization of financial processes. For instance, machine learning algorithms have proven essential in spotting complex patterns in financial data, while blockchain technology is improving the security and transparency of transactions. These developments facilitate greater active participation by individuals and organizations in the international financial markets and democratize access to financial services. This study shows how top financial institutions use computational tools to optimize trading strategies, risk assessment, and asset management through case studies, highlighting the revolutionary potential of these methods to improve financial decision-making. In addition, a systematic literature review (SLR) of current computational finance research is carried out in the work, providing insights into new developments in methodology. According to the paper, computational finance is developing quickly, and exciting new fields like reinforcement learning, natural language processing, and quantum computing may be able to provide fresh approaches to challenging financial issues. To demonstrate the usefulness of these technologies, real-world applications of computational finance are also looked at. Examples of these include JPMorgan Chase's blockchain platform for financial transactions and Goldman Sachs; use of machine learning for asset pricing. To sum up, computational finance has the potential to completely transform the financial sector by enhancing the effectiveness, precision, and creativity of financial analysis and decision-making. The study provides insights into the future of finance by outlining important discoveries about the improvements and effectiveness of computational methods in comparison to older methodologies. Computational finance is at the vanguard of financial innovation, with new technologies like artificial intelligence (AI), machine learning, and quantum computing expected to significantly improve the field and offer previously unheard-of possibilities for expansion and advancement.

KEYWORDS: Computational Finance, Blockchain Technology, Financial Technology, Agent-Based Modeling

AI AND CYBER SECURITY FOR ENTREPRENEURS

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ABSTRACT:
The combination of artificial intelligence with cybersecurity provides considerable benefits to entrepreneurs, notably in terms of digital asset protection, improved operational efficiency, and data-driven decision-making. In today's increasingly digital business environment, cybersecurity risks such as data breaches, malware, and phishing attempts pose a significant threat to start-ups and small firms, who frequently lack the means to maintain experienced in-house security teams. Artificial intelligence-powered cybersecurity solutions solve this issue by automating threat detection, response, and prevention, resulting in real-time protection against developing attacks. These artificial intelligence solutions constantly monitor networks, detect anomalies, and respond to emerging threats, allowing entrepreneurs to focus on their core company operations while being secure. Beyond security, AI has the potential to improve organizational processes. It automates typical security measures and includes software.

Updates, systems Monitoring and compliance checks reduce the need for substantial IT assistance while simultaneously lowering operational costs. Automation gives entrepreneurs peace of mind, especially those who manage small teams or work alone, allowing them to focus on key growth projects.AI-powered solutions offer useful insights through data analysis, allowing entrepreneurs to make more educated decisions. Predictive analytics assists firms in identifying cybersecurity flaws and market risks, helping them to manage threats and capitalize on new opportunities. Furthermore, AI encourages client involvement by tailoring experiences based on behaviour patterns and preferences, which leads to increased customer retention and loyalty.AI helps entrepreneurs navigate regulatory frameworks, such as GDPR (General Data Protection Regulation) and HIPAA (Health Insurance Portability and Accountability Act), by managing data encryption and maintaining customer privacy. As organizations build AI-powered cybersecurity. Solutions can readily adapt to increased data volumes and complex operations while maintaining security and efficiency. Create AI-powered cybersecurity solutions. Can readily adapt to increased data volumes and complex operations while maintaining security and efficiency. To summarize, AI and cybersecurity are critical enablers for entrepreneurs since they provide comprehensive security, operational automation, and strategic insights. Using these tools, entrepreneurs can protect their companies from cyber dangers, cut operating expenses, and gain a competitive advantage in an increasingly digital world.

KEYWORDS: include artificial intelligence, cybersecurity, entrepreneurship, threat detection, data protection, operational efficiency, automation, predictive analytics, regulatory compliance, business scalability, cyber threats, customer personalization, risk management, and competitive advantage

THE ROLE OF AI IN E-COMMERCE AND RETAIL INNOVATION

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ABSTRACT:
Artificial Intelligence (AI) is transforming the landscape of e-commerce and retail by introducing innovative solutions that enhance both customer experience and operational efficiency. This paper explores the significant role AI plays in various aspects of e-commerce and retail innovation.
One of the most notable applications of AI is in personalized shopping experiences. By analyzing customer data, AI algorithms can predict preferences and recommend products tailored to individual tastes. This not only helps customers find items they are more likely to buy but also increases sales for retailers. For instance, personalized emails and targeted advertisements based on browsing history can lead to higher conversion rates.
AI is also revolutionizing inventory management. Retailers can use AI tools to forecast demand, optimize stock levels, and reduce waste. By analyzing trends and consumer behavior, AI helps businesses make informed decisions about when to restock items, ensuring that popular products are always available while minimizing excess inventory.
Customer service has greatly benefited from AI advancements as well. Chatbots and virtual assistants provide 24/7 support, answering questions and resolving issues in real time. This not only improves customer satisfaction but also reduces the workload on human employees, allowing them to focus on more complex tasks.
Moreover, AI enhances the overall shopping experience through technologies like augmented reality (AR) and virtual reality (VR). These technologies enable customers to visualize products in their own environment before making a purchase, leading to more informed buying decisions and reducing the likelihood of returns.
Security is another critical area where AI plays a role. AI-driven systems can detect fraudulent transactions and suspicious activities, protecting both retailers and customers from potential threats. This not only fosters trust but also encourages more people to shop online.
In summary, AI is a powerful force driving innovation in e-commerce and retail. By personalizing experiences, streamlining operations, improving customer service, enhancing shopping experiences, and increasing security, AI is reshaping how businesses connect with consumers. As technology continues to evolve, the potential for AI in this sector will only grow, leading to more exciting developments in the future.

KEYWORDS: Retail, Shopping, Personalise, Buying Decisions.

AN SLR ON THE IMPACT OF ARTIFICIAL INTELLIGENCE ON FINANCIAL SERVICES: OPPORTUNITIES, CHALLENGES, AND FUTURE DIRECTIONS

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ABSTRACT:
AI has been making significant strides in the finance sector, revolutionizing how financial services are delivered and how financial decisions are made. The existence of AI has revolutionised the field of financial services, with innovations like algorithm trading AI has made a prominent presence in the financial sector. AI has simplified customer services, financial planning, fraud detection, risk management, portfolio management and many other aspects of the financial services industry. The integration of AI into finance is enhancing efficiency, accuracy, and accessibility in the industry. However, it also raises concerns about data privacy, ethical implications, and the potential for increased market volatility due to automated trading systems. As AI continues to evolve, it will be crucial to address these challenges while leveraging its benefits to advance the financial sector.
The prominence and increased involvement of AI in finance and related fields have given rise to studies in the field. The researcher presents a strategic literature review (SLR) of the existing literature. The SLR follows the PRISMA methodology for reviewing the literature and presenting the results. The SLR is intended to analyse the evolution and development of AI in finance and its overall impact on the sector, the research has also implored the future of AI in the field. For the study, the researcher selected research papers/journal articles from the Scopus database for the period from 1988 to 2024.
The AI interventions in finance have though researched so much in the given period, yet it is ever-evolving field hence the research could identify research gaps in the literature and recommend the future scope of research in the field based on the discussion.
With the insight into the literature, existing gaps and the scope for future research, the study is extremely important to understand the current trends of research on AI in the financial sector. The research is relevant for the researchers and academicians who are willing to study the field further. and the finance industry personnel and policymakers to use AI efficiently and limit the challenges AI presents.

KEY WORDS: Artificial Intelligence, finance sector, AI, financial Industry, financial services

THE FUTURE OF WORK: AI AND HUMAN COLLABORATION

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ABSTRACT:
Artificial Intelligence (AI) is already playing a significant role in human work and interaction. From virtual assistants like Siri and Alexa to customer service chatbots, AI helps automate repetitive tasks, improve efficiency, and offer personalized experiences. In industries like healthcare, AI systems support doctors by analyzing medical data, while in finance, AI helps detect fraud and manage risk. AI assists in handling data responsibilities to enable humans to concentrate on tasks that require creativity, strategic thinking and emotional intelligence. This helps enhance efficiency and productivity.
As AI technology progresses, its ability to collaborate with humans is expanding, particularly in decision-making and creative fields. Future AI systems are set to take on complex tasks, leveraging improved machine learning to analyze large datasets and detect patterns beyond human capability. Emotional intelligence in AI will further enhance collaboration, supporting decision-making and innovation. The impact of AI is transformative across various industries: it revolutionizes forecasting by analyzing trends, improves fairness in risk assessments, boosts sales with real-time adjustments, enhances defense systems, personalizes customer interactions, and automates asset management workflows. The increasing collaboration, between AI capabilities and industry requirements highlights its significance in improving effectiveness decision making and customer satisfaction..
The goal of this paper is to explore the evolving nature of AI and human collaboration in the workplace, focusing on practical examples of how AI complements human work. It will examine key areas like automation, data-driven insights, and creativity, while also addressing concerns such as job displacement and the need for upskilling the workforce. The paper will highlight the opportunities AI offers for enhancing productivity across sectors, while also considering the ethical implications, such as AI bias and transparency. Ultimately, this paper seeks to provide a roadmap for ensuring that AI and humans work together harmoniously to build a more productive and inclusive future workforce.

KEYWORDS: Artificial Intelligence (AI), Human-AI collaboration, Automation, Virtual assistants, Customer service chatbots, Healthcare AI, Finance AI, Data analysis, Machine learning, Decision-making support, Creativity and AI, AI in design and engineering, AI and emotions, Job displacement, Upskilling workforce, AI bias, Transparency in AI, Productivity enhancement, Ethical implications of AI, Inclusive workforce

GENERATIVE AI IN HEALTHCARE

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ABSTRACT:
Generative AI shows fundamental change in technology where machines are not only trained to identify patterns in data but also creates new data and simulations based on these patterns. Generative AI is capable of enhancing care of patient, transform healthcare by automated systems and large language models, helps in modifying medical diagnostics. These generative AI models can help in predicting disease progression as well as to double research education and drug development by opening windows to inventive healthcare with technology. GAI has the potential to provide researchers with a valuable tool to stimulate many scenarios and asses treatment effectiveness without any need for expensive and time taking trials including actual patience. It enhances preciseness, reduced errors and expedites tendering cycles hence improves financial workflows. However the risk in the realm of generative AI is the capability for algorithm bias that can create unfair outcomes. And there is a concern about data breaches if data of a patient is mishandled. This study focus on the importance of conveying the security and privacy threats with generative AI in healthcare to ensure effective use of these systems. The findings of this study deals with the potential benefits and risk associated with the system. Spread and sustainability (NASSS) model, Technology acceptance model (TAM) and abandonment scale up are some frameworks considered to encourage accountable integration. These frameworks helps in predicting and actively directing barriers to adoption facilities representatives taking part and responsibly shifting care systems to tackle generative AI's potential. GAI through billing, diagnosis, research and treatment can make healthcare more effective. 3D world and models are created by GAI which can aid in medical research that develops new protein sequences to help in drug discovery. It can be also benefited by medical imaging, medical coding .In imaging AI and big data both combines to give a more precise explanation of X-rays and MRI scans, which allows earlier diagnosis and upgraded treatment aims. Surgery assisted by generative AI enhances complex procedures across accurate navigation and real time support by doctors. The combination of AI and big data in healthcare promises great time ahead of precision medicine with effective , more personalized and a attainable healthcare. Some startups are expanding their horizons with inventive ideas like the Medical startups park at Medical and Medical startup competition present approaches that could be the missing building block for your success with Generative AI and big data. Some Generative models like LLMs powers conversational agents which understands and responds to patients queries and concerns. Sensely and Weobot health are some companies which uses these techniques to make virtual assistants that provides health information and explain symptoms. The outputs produced by GAI systems such as care planning, images and drug molecules are demonstrated on wide range of generative AI capabilities in healthcare. AI penetrates groups of lots of stakeholder where user may adopt and interact with GAI applications. These also help in creating graphs that shows new chemical compounds and molecules that support in drug discovery.

KEYWORDS: Artificial Intelligence, Generative Artificial Intelligence, Automated Systems, GAI Models, Data Breaches, Potential Benefits, Security And Privacy Threats.

AI IN STARTUPS: FROM INCEPTION TO SCALE

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ABSTRACT:
Artificial Intelligence (AI) is transforming the start-up ecosystem by enabling innovation, driving operational efficiency, and supporting growth. From inception to scale, AI plays a crucial role in helping start-ups develop unique solutions, optimize processes, and make data-driven decisions. During the early stages, AI helps start-ups create disruptive products by addressing complex problems more efficiently than traditional methods. Start-ups can leverage AI technologies such as machine learning, natural language processing, and computer vision to develop innovative solutions in areas like healthcare, fintech, and e-commerce. These solutions can range from AI-powered diagnostic tools to personalized recommendations and fraud detection systems.Startups also use AI to streamline operations and automate repetitive tasks, reducing the need for large teams. AI tools for market research, customer segmentation, and data analysis enable startups to quickly validate ideas, launch Minimum Viable Products (MVPs), and iterate based on real-time feedback. This leads to faster time-to-market and early customer engagement. AS startups grow, AI becomes essential for scaling operations efficiently. AI-driven automation allows businesses to manage increased customer demands, optimize workflows, and reduce manual intervention. Tasks such as customer service, marketing automation, and supply chain management can be powered by AI, ensuring smoother operations with fewer resources. AI's predictive capabilities enable startups to make informed decisions at scale. By analyzing large datasets, AI provides insights that help startups anticipate market trends, optimize pricing strategies, and personalize user experiences. This level of personalization not only improves customer retention but also drives revenue growth. Despite its advantages, implementing AI at scale presents challenges. Start-ups must manage vast amounts of data, ensure their AI models remain accurate and unbiased, and invest in infrastructure to support the computational demands of AI. Additionally, ethical concerns related to data privacy, transparency, and fairness must be addressed as AI becomes integral to the startup's business model.

KEYWORDS: Artificial Intelligence (AI), Start-ups, Scaling, Machine Learning, Data-Driven Decision-Making, Automation, Predictive Analytics, Product Development, Operational Efficiency, Ethical AI

UNVEILING THE INFLUENCE OF GENERATIVE AI SPECIAL REFERENCE TO CHAT- GPT IN SHAPING EDUCATIONAL DYNAMICS AND ADVANCING RESEARCH INITIATIVES IN HEALTH SECTOR

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ABSTRACT:
The technological revolution has been led by Generative AI, notably models like Chat-GPT, which have led to significant changes in a variety of fields, including education and research. These models, which emerged from the most recent advances in deep learning and natural language processing, have the exceptional capacity to generate content that is logical, contextually appropriate, and frequently indistinguishable from human-written prose.
This technology has a huge impact on the field of education. Educators and learners alike are on the verge of a new era where teaching and learning may become intricately entwined with AI help, from customising learning experiences to providing interactive study aids. Learning experiences that are more engaging, personalised, and effective may result from Chat-GPT's personalised learning routes, real-time feedback systems, and extensive knowledge base. However, along with these potential advantages come concerns regarding the place of conventional teaching techniques, the danger of over-reliance, and the difficulty of guaranteeing that content produced by AI maintains a high standard of accuracy.
Meanwhile, the use of Chat-GPT in the field of research offers revolutionary advancements, particularly in jobs involving academic writing, literature reviews, and data analysis. Research procedures can be sped up and made more thorough by using models like Chat-GPT, which can quickly sort through enormous amounts of data, summarise difficult publications, and even help generate academic content. But this also sparks important discussions about the veracity, morality, and calibre of research results supported by Chat-GPT.
The paper aims to showcase the Role of Chat-GPT and Generative AI (Artificial Intelligence) in Education and Research in Health sector. The paper is based on the review of the studies published including research papers and case studies. Descriptive method is used to gain the insights that how Chat-GPT and Generative AI is impacting Education and Research in Health. In this paper various methods also being shown to make use of Chat-GPT more effective, and which can produce better results from the available tools.

KEYWORDS: ChatGPT, Generative AI, Education, ResearchA Study on the Use of ChatGPT.

AI-DRIVEN INNOVATIONS: TRANSFORMING HYBRID WORK & MANAGEMENT DYNAMICS

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ABSTRACT:

Across commerce, artificial intelligence (AI) has developed a disrupting strength in all areas of management. Because of its incorporation, organizations are working inversely, improving decision-making, reorganization procedures, as well as encouraging innovation. AI-driven revolutions are subsidizing significantly to the development of work-life balance, worker satisfaction, plus efficiency when they are combined with the hybrid working model. These innovations offer refined tools as well as systems that enable flexible work plans.

AI-driven technologies deliver a powerful answer to the difficulties related with both in-office as well as remote collaboration in the perspective of hybrid working models. By refining communication, encouraging cooperation, as well as automating repetitive tasks, AI systems can help in connecting the gap among workers in different areas. AI-enabled systems, such as virtual assistants, collaboration tools, as well as machine learning algorithms, require the prospective to improve processes in addition to maintain employee efficiency and engagement even in circumstances when they are not actually present. This enables organizations to work with hybrid teams wonderfully and, at the same time, conserve a high standard of productivity and cooperation.

Additionally, by initializing AI-powered advances in commerce may improve the overall understanding of workers. Drawing from data analyses regarding worker preference, behavior, and productivity tendencies, AI technologies allow companies to adapt their support systems, which include flexible work schedules, employee yield ratio, identify skills gaps and map competencies needed to reach the goals. They tend to meet particular needs and address issues surrounding the hybrid work model, customized engagements like these have the potential for helping boost worker satisfaction. AI trade-offs in valuable executive insight into staff efficiency and comfort. Executives could use AI solutions to monitor things like KPIs and identify those who are at risk of burnout to provide supportive help and resources to such staff that may be at risk of failure due to adapting to hybrid work.

This approach in worker management is a more promising work atmosphere, only because it promises that any distresses relating to productivity, satisfaction, and work-life balance have been screened and addressed. Ultimately, AI-powered revolutions are necessary to flip the dynamism of management and in hybrid work models. Apart from increasing productivity, businesses can ensure work-life balance and employee contentment by deploying AI solutions to fast-track communication, enhance collaboration, and personalize employee insights. Integration of AI into the hybrid model is a progressive approach for managing the evolving workplace, especially in technologically advanced companies.

KEYWORDS: Artificial Intelligence (AI), AI-driven Innovations, KPI

ADVANCEMENTS AND APPLICATIONS OF NEUROMORFIC COMPUTING

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ABSTRACT:
Neuromorphic computing is a rapidly evolving field inspired by the structure and function of the human brain. Unlike traditional computing, which relies on sequential processing, neuromorphic systems mimic the way neurons and synapses work, using specialized hardware called spiking neural networks (SNNs). These systems process information in a highly parallel and efficient manner, making them ideal for applications requiring real-time decision-making with low power consumption.
One of the key advancements in neuromorphic computing is its integration with artificial intelligence (AI). While AI has made significant progress using conventional architectures, neuromorphic hardware offers unique advantages, such as faster and more energy-efficient processing.
The paper further discusses the applications of this technology include robotics, where neuromorphic systems can help robots perceive and respond to their environments more naturally. In healthcare, neuromorphic AI could enable better brain-computer interfaces and neuroprosthetics. In IoT (Internet of Things), neuromorphic chips allow for real-time data processing directly on devices, reducing latency and energy use.
The challenges and destiny guidelines in neuromorphic computing are discussed further, Focusing scalability troubles, electricity efficiency concerns, and the combination of neuromorphic systems with conventional computing paradigms. In conclusion, this paper concludes with the transformative capacity of neuromorphic computing in advancing artificial intelligence and cognitive computing.

KEYWORDS: Neuroprosthetics, Neuromorfic Computing, Artificial Intelligence

NAVIGATING THE IMPLEMENTATION OF AI-POWERED HR ANALYTICS FOR PREDICTIVE WORKFORCE PLANNING: CHALLENGES AND SOLUTIONS

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ABSTRACT:
In an era of technological advancement, HR Analytics is a swiftly evolving field that leverages AI and Data driven insights to transform the HR decision making process. Use of HR analytics for predictive workforce planning involves using data base, statistical models and machine learning algorithms to anticipate future workforce needs and trends. Through predictive analytics tools HR professionals can forecast future skills gaps, employee turnover rates and even high performers within the organisation. This helps the leader to proactively develop strategies for their recruitment, retention, succession planning and targeted training programs to address potential skill gaps. This paper tries to establish the foundation of effective use of HR Analytics tools, underling the importance of database management, including storage, collection and quality assurance of all kinds of employee data. The primary objective of the paper is to identify the key consideration through which AI- Powered HR analytics can be successfully implemented in the organisation. Additionally, the paper will also address the challenges faced by the organisations in implementation and their possible solutions.

The data is collected from selected multinational companies of Delhi-NCR region to test the AI- driven predictive models and their accuracy in workforce planning. Also the paper tries to gather some qualitative data by interviewing experts and AI specialist, discussing about their challenges and concerns related to implementation and execution of HR analytics for predictive workforce planning. The research paper also incorporates the different case studies of organisations successfully implementing AI and HR analytics, highlighting their best practices and key success factors. The results of the study could assist stakeholders to cater the key considerations and challenges related to AI driven HR analytics for predictive workforce planning implementation. The paper concludes by discussing the implications of the results and future of AI in HR, positioning AI powered analytics for the sustainable growth of the organisation.

KEYWORDS: AI-Powered HR Analytics, Predictive Workforce Planning, database management

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