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EMERGING APPLICATIONS OF ARTIFICAL INTELLIGENCE, MACHINE LEARNING AND CYBERSECURITY

16-17th May 2024

Editors:
Dr. V.C. Pandey
Dr. Md Ehsan Asgar
Abhendra Pratap Singh

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Md. Ehsan Asgar
Abhendra Pratap Singh
(Editors)

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ICAMC 2024

Table of Contents

Disclaimer i

Foreword v

About the Conference vi

About the Host Organization vii

About the Volume Editors viii

Message from Convener ix

Conference Committees x

Advisory Committee xi

Keynote Speaker xi

Peer Review Policy xii

List of Reviewers xii

Smart Stock Price Prediction Algorithm using RNN variant Long Short-Term Memory
Hemank Jain 1

Enhancing and Optimizing Image Quality Assessment with CNNs and AI Techniques
Manoj Lilachand Patel, Vikas Tiwari 12

Predicting Missing Data Using Multiple Imputation by Chained Process in Obesity Dataset
Gopika Venu, A. Sai Gnanika, B. Rajani, A. Yasmeen, K. Kiranmai 19

A Computer Vision Based Approach for Real-Time Drowsiness Detection Using Eye Aspect Ratio Analysis
Usha Dhankhar, Abhinav, Ankush Pathak, Zeeshan, Jay Kumar Jha 28

Machine Learning Approaches for Predicting Mechanical Properties of Composite Materials
Abhendra Pratap Singh, Md Ehsan Asgar, Ajay K.S Singholi, Uma Gautam, Rajeev Ranjan 35

Exploring the Depths: A Comprehensive Survey of Neural Networks and their Applications
Harshit Gupta, Manya Verma, Anushka Arora, Dhriti, Gyanender Kumar 42

Speech to Speech Translation for English and Hindi with Speaker Preservation
Dhruv Prasanna, Avinash Nithyashree, Namith V Shetty, Praharsha Kosuri, Pavan A C 58

A Review of Major Translation Technologies in Literature: Bridging to Hybrid Systems
Taruna Sharma, Nandini Sharma, Arpit Dwivedi, Daksh Thakur 64

Transforming Automotive Leasing: Exploring the Impact of Online Car Lease Platform
Jitesh Tandon, Akshat Kumar, Archana Mongia 71

Web Bot Detection Using Keyboard Behavioural Analysis
Vasvi Sharma, Siddhartha Chauhan 79

Modelling Structural Linkages Among Last Mile Logistics Barriers: Interpretive Structuring Modelling (ISM) Approach
Nishtha Agarwal, Dikshit Chaudhary 91

Artificial Intelligence for Men or Men for Artificial Intelligence: Reading Her Through a Survey on Artificial Intelligence and Mental Health
Pritha Chakraborty, Sneha, Aakriti Sharma, Pranshu Dubey 100

Implementation of Machine Learning Algorithms in the Field of Bioinformatics
Mohan Dev Vashisht, Varun Saxena, Ishita Uniyal, Neha Yadav, Mohd Izhar 111

Intelligent Fashion Recommender System: Redefining Style with Deep Learning
Rohan Bhardwaj, Anuj Negi, Prithvi Chauhan, Neha Yadav 117

A Study on Bio Inspired Wire Actuated Robotic Arm with Teleoperation for Biomimicry
Abhendra Pratap Singh, Sahil Khan 125

Fake News Detection Using Logistic Regression Method
Aayushya Kumar, Satyam Kumar Mishra, Khushar Shukla, Smriti Srivastava 132

Exploring the Diverse Applications of Thermal Cameras: A Comprehensive Review
Kartik Madaan, Vanshika, Shelly 139

Optimized Adversarial Defense: Combating Adversarial Attacks with Denoising Autoencoders and Ensemble Learning
Tushar Bhatia, Peeyush Kumar Singh, Kanishk Vikram Singh, Jayesh, Faisal Rais 150

Voice Assistants: The Digital Age's Emergence of Virtual Friends
Atharva Singh, Komal Goel, Haider Abbas, Mohd Izhar, Faisal Rais 159

Identification of Exoplanets using Machine Learning
Deepanshu Tyagi, Renu Chaudhary, Gurpreet Kaur, Rekha Kumari 169

Leveraging Machine Learning for the Management of Ureteropelvic Confluence Obstruction
Pratyusha Mandal, Dhruv Goyal, K. Priyadarsini, Jeba Sonia 183

Unveiling Writing Styles: A Comparative Analysis of AI-Generated and Human Generated Content
Taruna Sharma, Priyansha Sachdev, Priya, Supriya Kumari 193

Evaluation of LLMs Capacity to Assist in Chemistry Laboratory Courses
Sanidhya Pal, Anup Paul 213

Advancements in Deep Learning for Cardiac Sound Classification: A Review on Architectures, Preprocessing Techniques and Datasets
Pragya Arora, Ritika Kumari, Poonam Bansal 229

Exploring the Landscape of Blockchain in Healthcare: Addressing Challenges and Seizing Opportunities
Saba Zaidi, Kavita Rani, Rahul Bhandari, Md Ehsan Asgar 240

Unveiling Insights Through Question Answering Chatbot using LangChain
Tanishca Soodan, Ritika Kumari, Poonam Bansal 245

Optimizing Grammar Error Correction Performance with Attention-Based Neural Networks
Medha Joshi 252

Moving Object Detection, Tracking and Range Estimation in Infrared Videos using Deep Learning
Shubham Kasera, Ajay Waghumbare, Sahil Mahajan, Upasna Singh 263

Enhanced Information Security with ECG Biometric Authentication
Kriti Verma, Amit Kaul 275

Foreword

It is with great pleasure that we welcome you to *the International Conference on Artificial Intelligence, Machine Learning, and Cybersecurity (ICAMC-2024)*. This conference serves as a prestigious platform for researchers, academicians, industry professionals, and policymakers to exchange ideas, present innovative research, and discuss the future of AI, ML, and cybersecurity.

In an era where technological advancements are shaping every aspect of our lives, artificial intelligence and machine learning have become pivotal in driving innovation, automation, and efficiency across various sectors. However, as these technologies evolve, so do the challenges associated with cybersecurity. The intersection of AI, ML, and cybersecurity is crucial for ensuring the safety, privacy, and resilience of digital systems worldwide.

ICAMC-2024 aims to foster collaboration among experts and thought leaders, providing insights into cutting-edge research, practical applications, and emerging trends in these fields. The conference includes keynote sessions, discussions, and technical paper presentations covering topics such as deep learning, data security, ethical AI, cyber threats, and next-generation cybersecurity solutions and defense mechanisms.

We extend our gratitude to the distinguished speakers, dedicated researchers, and passionate participants for their valuable contributions and participation. A special appreciation goes to the Advisory committee Organizing committee, Reviewers, Sponsors and Publication partners for making this event possible.

We hope that ICAMC-2024 will inspire new research directions, foster meaningful collaborations, and contribute to the global dialogue on AI, ML, and cybersecurity.

Dr. V. C. Pandey

Dr. Md. Ehsan Asgar

Mr. Abhendra Pratap Singh

About the Conference

HMRITM is proud to host the 2nd **International Conference on Emerging Applications of Artificial Intelligence, Machine Learning, and Cybersecurity (ICAMC-2024)** in May 2024.

ICAMC-2024 is a premier platform for presenting cutting-edge research and advancements across AI, ML, and cybersecurity domains. The conference spans theoretical foundations, tools, applications, systems, test-beds, and real-world deployments. It emphasizes the integration of intelligence into various systems, focusing on the design, development, and application of technologies in sectors such as transportation, energy, healthcare, agriculture, robotics, smart cities, and supply chains.

Key research areas include security, optimization, machine learning, game theory, cloud computing, signal processing, human-in-the-loop systems, data analytics, and verification. ICAMC-2024 aims to foster collaboration among researchers, academics, industry professionals, and practitioners, promoting the exchange of innovative ideas and interdisciplinary knowledge.

1 *Conference Objectives*

- To provide a platform for presenting innovative AI and ML applications in cybersecurity.
- To explore ethical concerns and regulatory frameworks in AI and cybersecurity.
- To foster industry-academia collaborations for real-world problem-solving.

2 *Key Highlights*

- **Keynote Sessions**: Renowned experts will share insights into the latest trends and advancements.
- **Technical Paper Presentations**: High-quality research papers covering theoretical and applied aspects of AI, ML, and cybersecurity.
- **Panel Discussions**: Engaging conversations on the intersection of AI, ML, and cybersecurity challenges.

About the Host Organization

Established in 2002, HMR Institute of Technology & Management (HMRITM) is a distinguished educational institution situated on a lush 5-acre campus in Delhi Capital Territory (NCT). Founded with a vision to foster technical excellence, HMRITM has rapidly emerged as a prominent name in the field of engineering and technology education. The institute is dedicated to cultivating a new-age, intellectually driven workforce to meet the challenges of a highly competitive and technology-centric world.

Named in honor of its founders—Late Sh. Hiralal, Late Smt. Mohan Devi, and Late Smt. Rita Gupta—HMRITM creates an environment that combines academic rigor with practical industry exposure. This equips students with the technical expertise and emotional intelligence necessary to excel in complex, dynamic technological landscapes.

Strategically located in Delhi, HMRITM enjoys proximity to numerous corporate hubs and industries, enabling seamless industry-academia interaction. The institute is committed to delivering quality education aligned with global standards, supported by cutting-edge infrastructure and an innovative learning environment. By emphasizing research and development, HMRITM contributes to critical engineering advancements and technological breakthroughs. With a holistic approach to education, it seeks to drive progress for its students and the broader community.

About the Volume Editors

Dr. V C Pandey has been working as Director in HMRITM Delhi since 2018. He obtained his Ph.D. from Delhi College of Engineering (Delhi University) in year 2011. He completed his Masters in Industrial Engineering & Management in year 1996 from SGS Institute of Technology & Science Indore and Bachelors in Mechanical Engineering from Madan Mohan Malviya Engineering College Gorakhpur in year 1994.

He has more than 30 years rich experience of industry, research, teaching and administration in the organizations of repute in Bangalore and Delhi-NCR. Prior to this He worked as the head of the institution in three different engineering colleges in NCR.

He has quality research publications in best journals in his research area. He guided more than 30 projects at undergraduate level. He attended more than twenty five workshops and conferences in best institutions of the country. He organized many International Conferences and seminars during past few years. His area of interest is Decision Sciences, Business Analytics & Big Data, Project Management, Total Quality Management and Six Sigma. He is actively involved as the reviewer in the best journals of his research domain. He is life member of various professional bodies like Indian Society of Technical Education, Indian Welding Society, Society of Automobile Engineers and Indian Institutions of Industrial Engineering etc.

Dr. Md Ehsan Asgar works as an Assistant Professor in HMR Institute of Technology and Management, New Delhi affiliated with Guru Gobind Singh Indraprastha University (GGSIPU). Mr. Asgar has an experience of more than 11 years in higher technical education at UG level teaching and research. He is completed his Ph.D from Guru Gobind Singh Indraprastha University, New Delhi in year 2022.

His research area includes Automation, Robotics, Advanced Manufacturing and Additive Manufacturing. He guided more than 10 projects in Undergraduate level. He has over 15 international research publications in indexed journals and 2 patents published. He attended more than 30 seminars, workshop, conference and FDP in past few years. He is also an active author, reviewer and member of technical programme committee in various academic organizations. He has previously worked as a convener of and organizing members in various Conferences.

Abhendra Pratap Singh is working as an Assistant Professor in HMR institute of technology and management, affiliated to GGSIPU, Delhi India. He is Pursuing Ph,d from IIT Delhi. He completed M. Tech in Tool Engineering from Delhi Institute of Tool Engineering, Delhi & B. Tech in Mechanical and Automation Engineering from Amity University, Noida Sector-125, India. With ABET accreditation from Japan. He has 4years experience of teaching in the vast landscape of artificial intelligence in mechanical Engineering. His interests encompass Static, mechanical and Dynamics of composite structures, Honeycomb Structures, Hybrid sandwich modeling, tapered and laminated composites and Cutting. He has an impressive publication record with over 30+ research papers in Indexed high-impact factor international journals. He has attended many seminars, conferences, and training programs. His innovative spirit is demonstrated by many published & granted national and international patents. He has previously worked on the various editorial positions of several volume editions.

Message from Convener

It is my great pleasure to welcome you all to the International Conference on Emerging Applications of Artificial Intelligence, Machine Learning and Cybersecurity (ICAMC-2024) being held in HMR Institute of Technology & Management, New Delhi on May 16-17, 2024. It has been a real honour and privilege to serve as the Conference Convener. ICAMC-2024 has provided a cross-disciplinary venue for researchers and practitioners to address the rich space of AI, ML and Cybersecurity.

The papers were evaluated by the experts on the basis of their significance, novelty, and technical quality. I would like to thank the organizing committee for the time and energy they have devoted to editing the proceedings and arranging the logistics for holding the conference.

I am thankful to the Hon. Chairman Sh. Anil Kumar Gupta, Director General Shri N. K. Sharma, Director Prof. V.C. Pandey and Dy. Director Dr. Shalini Gupta for their continuous support. I am also thankful to all organizing team members for tireless effort to make the conference successful.

The conference would not have been possible without the enthusiastic and hard work of faculty members and staff of HMR Institute of Technology & Management. I also want to express my sincere appreciation to the Technical Program Committee members for timely critical review of the submitted papers. Last, but certainly not least, my thanks go to all the authors who submitted papers and all the attendees. I hope that you will find the program stimulating and a source of inspiration for future research.

Dr. Md Ehsan Asgar
Department of Mechanical Engineering
HMR Institute of Technology and Management
Hamidpur, New Delhi, India

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Keynote Speaker

Prof. (Dr.) Tanupriya Choudhury, School of Computer Sciences, UPES, Dehradun, India

Prof. (Dr.) Biswajeet Mukherjee, Department of Electronic Science, University of Delhi, India

Peer Review Policy

ICAMC-2024 was committed to maintaining the standards of academic integrity and scholarly excellence. The peer review process ensured that all submitted papers were evaluated rigorously, fairly, and transparently, fostering high-quality research contributions.

Review Process

1. **Initial Screening**

All submissions were checked for relevance, originality, and adherence to the conference's scope and formatting guidelines before being assigned to reviewers.

2. **Assignment of Reviewer**

Each paper was reviewed by at least two independent experts with relevant subject matter expertise.

3. **Evaluation Criteria**

Papers were assessed based on the following factors:

- Originality and novelty of research
- Technical quality and methodology
- Clarity and organization
- Significance and impact of findings

Final Decision

The final acceptance or rejection of papers was based on reviewer recommendations and program committee deliberations. All decisions were final and aimed to maintain the conference's academic integrity.

List of Reviewers

Dr. Sushama Tanwar	Manipal University	Jaipur, Rajasthan
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