3rd International Symposium on Sustainable Energy And Technological Advancements

(23rd – 24th February 2024)

ISSETA 2024 Special Session on

Effective Implementation of AI and ML in Energy Management of Automation System

Aims and scope of the session:

This special session aims to investigate and develop strategies for the effective implementation of AI and ML in the energy management of automation sectors, focusing on optimizing energy usage, enhancing system efficiency, and reducing operational costs. AI and ML are increasingly used to predict equipment failures and schedule maintenance activities before they become critical. This proactive approach helps prevent unexpected downtime and energy waste, ultimately leading to significant energy savings. Advanced algorithms can now accurately predict energy demand patterns. By analyzing historical data, weather conditions, and other variables, these systems can optimize energy generation and distribution, reducing waste and costs. These technologies are instrumental in achieving more sustainable and efficient energy management across various industries.

Topics of interest:

This special session invites research papers from the following topics (but not limited) to further recognize the role of effective implementation of AI and machine learning in energy management of automation system.

1. AI and ML algorithms for energy optimization
2. Predictive maintenance and asset management
3. Building automation and energy efficiency
4. Carbon emission reduction and sustainability
5. Smart grids and microgrids
6. Energy storage and grid integration

7. Energy demand forecasting
8. Energy procurement and pricing
9. Policy, regulations, and industry standards
10. Reliability and assessment of modern system

Special session organizers:

1. Dr. Usha Chauhan
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Dr. Usha Chauhan is an Professor in Department of Electrical, Electronics and Communication of Engineering, Galgotias University, NCR Delhi, India. She has received Ph. D degree in Electronics and Communication in 2018, MTech in 2007 and BE from government college UBDT Karnataka in 1999.She has more than 20 years of experience working in teaching and research. Her current research areas are Image Processing, Digital Communication Embedded System, Internet of Things, Machine learning and Big Data. Dr. Usha Chauhan is the author of over 13+ book chapters including some reputed publishers such as Springer, Elsevier, CRC Press, IGI global and 28+ international journals and conferences. She has published book chapters in Taylor & Francis Group (CRC Press), Weily, Springer, etc.

2. Dr. Mohammad Ayoub Khan
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Mohammad Ayoub Khan (Senior Member, IEEE) received the Master of Technology degree in computer science and engineering from Guru Gobind Singh Indraprastha, New Delhi, India, in 2005, and the Ph.D. degree in electrical engineering from Jamia Millia Islamia, New Delhi, India, in 2012., He worked with many leading organizations, like the Ministry of IT and Communications, India, and Sharda University. He is currently a Professor with the University of Bisha, Bisha, Saudi Arabia.

3. Dr. Sapna Katiyar

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Ph.D. from Jamia Milia Islamia University, New Delhi in the area of Artificial Intelligence. Prof. (Dr.) Sapna Katiyar has more than 20 years' experience in Academics & Industries. Currently working as Advisor (Technology) with Cloud, Bigdata & Data Science professions at Impledge Technologies. She has been appointed and served as Chief Executive Officer (CEO) for Technology Business Incubator (TBI). She had also served as Dean Academics, HOD & Professor at various prestigious Institutions. Her research areas are Artificial Intelligence, Machine Learning, Cloud Computing, Internet of Things, and Image Processing.

She has authored seven books in the areas of Communication: Satellite Communication, Optical Communication, Advanced Communication Systems, Telecommunication and Television. Prof. Katiyar received Teacher's Excellence Award for "Number of Papers / Journals and Books Published" by Confederation of Educational Excellence. She has received many Certificates of Appreciations from Skill Council of India, Texas Instruments, Entuple Technologies, iB hubs.

She is also active member of many professional societies: IEEE, ISTE, IETE, ACM, CSI and Indian Women Scientist. She has published & granted 9 Indian, Australian and South African Patents. She has published more than 45 papers in Index Journals / International and National Conferences. She is the advisory board member / program committee member of many international conferences, reviewer, and guest editors of many reputed journals.