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Special Issue on

Statistical & Mathematical Modelling for AI-Driven Intelligent Systems in IoT and its Computation Challenges (Part-A)

Guest Editors

Dinesh Goyal

Anil Kumar

Maria Ganzha

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Guest Editors

Dinesh Goyal
Poornima Institute of Engineering & Technology
Jaipur
Rajasthan
India
E-mail: dinesh.goyal@poornima.org

Anil Kumar
Department of Computer Engineering
Poornima Institute of Engineering & Technology
Jaipur
Rajasthan
India
E-mail: anilkumar@poornima.org

Maria Ganzha
Faculty of Mathematics
Warsaw University of Technology
Warsaw
Poland
E-mail: maria.ganzha@ibspan.waw.pl

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FOREWORD

Advances in Internet of Things (IoT) and its applications in real life have revolutionalized the way human beings interact with machines, enabled the integration of sensors, devices, and systems to collect and exchange data. AI-driven intelligent systems in IoT rely heavily on statistical and mathematical modeling to analyze and interpret complex data, making informed decisions and taking actions. However, these systems face significant computational challenges that must be addressed to ensure efficient and effective operation. There is a great need to optimize these operations and processes, so that technology enabled human life can become much better. Researchers have made significant efforts to develop solutions that optimize the process of IoT data and its analysis process.

The special issue on "Statistical & Mathematical Modelling for AI-Driven Intelligent Systems in IoT and its Computation Challenges" consolidates state-of-the-art research and upcoming trends in the unification of AI models, statistical methods, and mathematical models adopted for IoT-based intelligent systems. The objective is to resolve computational challenges, real-time processing and optimization problems involved in implementing AI in intelligent networked systems.

This special issue features cutting-edge research towards opportunities and challenges in intelligent IoT systems, with focus on novel studies in AI-based decision making, intelligent sensors, real-time data modeling, system-level simulations, and statistical optimizations.

This special issue is an outcome of the 6th International Conference on Information Management & Machine Intelligence held at Poornima Institute of Engineering & Technology, Jaipur on 23-24 Dec 2024, wherein

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we received more than 250 papers during the conference which went through a rigorous peer review process after which 41 papers have been selected for publication in this issue.

The guest editors appreciate the contribution of authors and critical feedback of reviewers. We take this opportunity to especially thank Prof. B. K. Dass, Chief Editor, for encouraging us and facilitating publication as a special issue of the prestigious *"Journal of Information and Optimization Sciences"* brought out by Taru Publications, New Delhi. We are hopeful that this work would be accepted as a forerunner to further such works and prompt research and interaction in these crucial areas.

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CONTENTS

A. Dixit and M. Jain
A secure and intelligent framework for autonomous driving : Enhancing vehicle trajectory prediction with LSTM-XGboost model 893–902

A. Chaurasia, V. S. Sharma, S. K. Sharma, A. Srivastava and A. Pillai
Proof of ability (PoAb) : An energy efficient and secure blockchain consensus algorithm for IoT devices 903–913

V. D. Gowda, S. Singh, P. SVVSR Kumar, K. K. Dave, H. Kothari and T. Thiruvenkadam
Optimizing homomorphic encryption for machine learning operations in cloud computing 915–925

V. D. Gowda, P. SVVSR Kumar, P. Damacharla, M. Tarambale, P. K. Lakineni and K. Sripathi
Enhancing machine learning robustness against adversarial attacks through cryptographic techniques 927–937

M. Jain, R. Verma, S. Kumar, A. Srivastava, A. Pillai and V. S. Sharma
Securing the future of wireless communications : Utilizing a blend of deep learning techniques for identifying risks in advanced communication networks 939–948

S. K. Singh, V. S. Sharma, S. K. Sharma, A. Srivastava and A. Pillai
Securing OBD II sensor technology using cryptographic method in safety-based driver behavior analysis 949–956

V. Agarwal, N. Goel, M. Sharma, A. Agarwal, N. Gupta and S. Yadav
Sentinel AI : Pioneering cyber threat detection and mitigation through advanced machine learning 957–968

S. K. Sharma, V. S. Sharma, A. Chauraisa, A. Srivastava and A. Pillai
Enhancing the security of IoT edge computing using quantum cryptographic and cellular automata 969–977

P. Surekha, P. V. Sagar and G. Ramesh
Edge aware directional coding (EADC) for face expression recognition 979–989

S. Chouhan and G. Sharma
Enhancing electoral integrity : A blockchain-based voting system for secure and transparent elections 991–999

A. K. S. Sanger and R. Johari
Architectural model for Cloud-IoT integration using lightweight open messaging protocol (MQTT) 1001–1012

V. Bhasin, S. Aggarwal, G. Aggarwal and Aakanksha
Suicide data analysis using multi-criteria decision-making 1013–1030

S. Garg, V. Jindal, R. Johari, D. P. Vidyarthi and V. Bhasin
VAiBT : Vulnerability assessment in blockchain technology 1031–1043

S. Agarwal and R. Gupta
Semantic web empowered prediction of cervical cancer through machine learning on cloud platform using SemanticAutoMLCloud 1045–1057

S. K. Sahi
Genetic algorithm-based optimization for enhancing crop yield and resource efficiency in agriculture 1059–1067

G. Sharma, R. S. Sharma, J. Kumawat, S. K. Swarnkar, G. K. Sharma and G. Lavania
Recent trends and applications in blockchain technology : The concept of monitoring over cryptocurrency 1069–1079

H. B. Solunke, P. Bhaladhare and A. Potgantwar
Design of an iterative method for privacy : Preserving blockchain networks integrating dynamic routing with deep Q-networks and homomorphic encryption-based secure routing 1081–1090

R. Mehta, S. Mahajan and K. Khanna
An MCDM and partial computations based deadline and energy-aware real-time workflow scheduling technique for fog integrated cloud environment 1091–1103

P. Patil, S. Charkha, S. V. Kakade, P. B. Patel, P. Kadam, M. Garg and S. Shirkande
Transfer learning optimization in medical imaging enhancing diagnostic accuracy with limited data sets 1105–1116

C. Gode, B. M. Nanche, D. Dhabliya, R. D. Shelke, R. V. Patil and S. Bhosle
Dynamic neural architecture search : A pathway to efficiently optimized deep learning models 1117–1127