



# First International Conference on Advanced Computing Systems

Adcomsys 2024

Organized by:

Department of Computer Science and Technology & Computer Science and Information Technology (CST and CSIT)

# 26th and 27th June, 2024

https://adcomsys.uem.edu.in/

All accepted and presented papers will be published by the Web of Science (WoS) indexed Springer Nature Book Series "Algorithms" for Intelligent Systems" (https://www.springer.com/series/16171)









# INTERNATIONAL ADVISORY COMMITTEE

Dr. Lawrence Dalmarie - UDC, USA Dr. Karina Aragon Gaxiola - University of Waterloo, Canada Dr. Mohammad Al Azawi - OCMT, Oman Dr. Mohammed Beitsuwaflim - Sultan Qaboos University, Oman Dr. Dena McMartin - University of Saskatchewan, Canada Dr. David deMontigny - University of Regina, Canada Dr. Mohd Hafiz Bin Fazalul Rahiman - UMP, Malaysia Dr. Nathalie Tourigny - University of Waterloo, Canada Dr. Marian Langbridge - SEMC, UK Dr. March - Shannon, UN, Canada Dr. lei zhu - NREL, USA Dr. Michael Osborne - University of Oxford, UK Dr. Robert F Davis - CMU, USA Dr. Burak O Ozdoganlar - CMU, USA Dr. Boudreault - Mathieu, MHI, Canada

Dr. Boukadoum - A. MMHI, Canada Dr. Richard Linley - University of Cambridge, UK Dr. Qusay Mahmoud - Ontario Tech University, Canada Dr. Mekonnen - Gashaw, CHSAAU, Ethiopia Dr. Gregory Dudek - McGill University, Canada Dr. Sylvie Thiebaux - ACCS, Australia

Dr. Obermayer - KTU, Netherland

Dr. Michel Plaisent - University of Quebec in Montreal, Canada Dr. Jörg Sander - University of Alberta, Canada Dr. Erik Cambria - Nanyang Technological University, Singapore Dr. Nathalie Japkowicz - American University, USA

Dr. Adam W. Skorek - University of Québec at Trois-Rivières, Canada

Dr. Liming Zhang - University of California, USA Dr. Wudhichart Sawangphol - Mahidol University, Thailand Dr. Noraisyah Binti Mohamed Shah - University of Malaya, Malaysia Dr. Raj Jain Washington University - USA Dr. Hadj Bourdoucen - Sultan Qaboos University, Oman

Dr. Vincenzo Piuri - Universita' degli Studi di Milano, Milano, Italy Dr. Nor Ashidi Mat Isa - Universiti Sains Malaysia, Malaysia Dr. V.G. Tharinda Nishantha Vidanagama - WUSL, Sri Lanka Dr. Hazlie Mokhlis - University of Malaya, Kuala Lumpur, Malaysia. Dr. Ahmad Zhafran Bin Ahmad Mazlan - USM, Malaysia Dr. Nadine Akkari - Jeddah International College, Saudi Arabia

Dr. Basel Barakat - University of Greenwich, UK Dr. Hosam El-Ocla - Lakehead University, Canada Dr. Mohd Asyraf Zulkifley - National University of Malaysia, Malaysia

# TECHNICAL PROGRAM COMMITTEE

Dr. Rajat Kumar Pal - University of Calcutta, Kolkata, India Dr. Mokbul Morshed Ahmad - Asian Institute of Technology, Thailand Dr. Nabendu Chaki - University of Calcutta, India Dr. Mohd Syuhaimi Ab Rahman - NUM, Malaysia Dr. Rajitha B - MNNITA, Prayagraj, India

Dr. Shirley Devapriya Dewasurendra - University of Peradeniya, Sri Lanka Dr. Anirban Mukhopadhyay - University of Kalyani, Kalyani, India Mr. Bidit Pakrashi - Comcast, USA Dr. Debashish De - MAKAUT, West Bengal

Dr. Sheng-Lung Peng - National Dong Hwa University, Hualien, Taiwan Dr. Indrajit Banerjee - IIEST, Shibpur, India Dr. Shivendra Shivani - Thapar University, Patiala Dr. Ekramul Hamid - University of Rajshahi, Bangladesh

Dr. Chintan Kumar Mandal - Jadavpur University

Dr. Media Anugerah Ayu - Sampoerna University, Indonesia Dr. Santi Prasad Maity - IIEST, Shibpur, India Dr. Fatima Isiaka - Sheffield Halam University, United Kingdom Dr. Peter Loh Kok Keong - Nanyang Technological University, Singapore

Dr. Asish Kumar Mukhopadhyay - Prof. Emeritus, IET, BU, Jhansi, U.P Dr. Apurba Sarkar - IIEST, Shibpur, India Dr. Jaya Sil - IIEST, Shibpur, India Dr. Tapas Chatterjee - Indian Institute of Technology, Ropar Dr. Hamid Abdullah Jalab al-Tulea - UM, Kuala Lumpur, Malaysia

Dr. Chang-Biau Yang - National Sun Yat-sen University, Kaohsiung, Taiwan Dr. Surajit Kumar Roy - IIEST, Shibpur, India Dr. David deMontigny - University of Regina, Canada Dr. Mohd Hafiz Bin Fazalul Rahiman - UMP, Malaysia

Dr. March, Shannon - University of Newfoundland, Canada Dr. Lei Zhu - National Renewable Energy Laboratory, USA Dr. Nidul Sinha - National Institute of Technology, Silchar, Assam, India Dr. Annapa B - National Institute of Technology, Silchar, Assam, India

Dr. Marian Langbridge - School of Engineering & Material Science, UK

Dr. Malay Kule - IIEST, Shibpur, India Dr. Sankhayan Choudhury - University of Calcutta, India

Dr. Sunirmal Khatua - University of Calcutta, India Dr. Pritha Banerjee - University of Calcutta, India Dr. Rajib Das - University of Calcutta, India

Dr. Bansibadan Maji - National Institute of Technology, Durgapur, India Dr. Tanvi Agrawal - Indian Institute of Technology, Mumbai Dr. Sahil Neelam - Punjab Institute of Technology Kapurthala, India Dr. Rik Das - Xavier Institute of Social Service

Dr. Parag Kumar Guha Thakurta - NITD, India Dr. Simon Stieber - University of Augsburg, UNA Dr. Abdulnasir Hossen - Sultan Qaboos University, Oman Dr. Padmalochan Bera - Indian Institute of Technology, Bhubaneswar Dr. Himadri Shekhar Dutta - Kalyani Govt. Engineering College Dr. Ahmad Zaidi bin Abdullah - Universiti Malaysia Perlis, Malaysia Dr. Roy Eagleson - Western University, Canada

Dr. Soumya Sen - University of Calcutta, India Dr. K.K. Shukla - IIT, Banaras Hindu University, India Dr. Julia Johnson - Laurentian University, Sudbury, Ontario, Canada Dr. Rinki Sharma Ramaiah - UAS, Karnataka, India Dr. Tapas Si - University of Engineering & Management, Jaipur Dr. Normi sham bt. Awang Abu bakar - IIU, Malaysia

Prof. Adrian Schmidt - Burman University, Canada Dr. Ke-Lin Du - Concordia University Montreal, Canada Dr. Hamed Sadat mehrizi - Qazvin Azad University, Iran Dr. Rosli Bin Besar - Multimedia University, Malaysia Dr. Saradindu Panda - Narula Institute of Technology Kolkata, India Dr. Nirnay Ghosh - IIEST, Shibpur, India

Dr. Indranil Chakrabarty - IIIT, Hyderabad, India Dr. Arijit Banerjee - Federated Wireless, USA Dr. Konika Das Bhattacharya - IIEST, Shibpur, India Mr. Sanjay Saha - SAMSUNG, India

Dr. Rudra Pratap Ojha - G. L. BITM, Greater Noida, India Dr Soumya Ranjan Mishra - SCE, KIIT University, Bhubaneswar, India Dr. Dhananjoy Bhakta - IIIT Ranchi, India Dr. Mandeep K. Chawla - MCM DAV College for Women, Chandigarh, India

Dr. Karl F. Bohringer - University of Washington, USA Dr. Gitosree Khan - BP PoddarlMT, Kolkata, India Dr Anirban Mitra - Amity University, Kolkata, India Dr. Samya Muhuri - TIET, Patiala, India

Dr. Kousik Dasgupta - KGEC, Kalyani, Nadia, West Bengal, India Dr. Samir Kr Borgohain - NIT, Silchar, Assam, India Dr. Nassir Jabir Farhan AL-Khafaji - Technical Institute of Nasiriyah, Iraq Dr. Bhaskar Karn - Birla institute of Technology, Mesra, India Dr. Dhruba Jyoti Bora - MIT, Chittoor, Andhra Pradesh, India

Dr. Debashree Devi - IIIT, Guwahati, Assam, India Mr. Subham Bid - Associate at CB Tech, Deutsche Bank, Pune, India Miss. Shirsha Chakraborty - SSE, Marsh Mclennan, USA Dr. Sandip Das - GITS, Udaipur, Rajasthan, India

Dr. Riya Sen - GITS, Udaipur, Rajasthan, India Dr. Sumana Kundu - Dr. B. C. Roy Engineering College, Durgapur, India Dr. Ravi Kant Kumar - SRM University, Andhra Pradesh, India Dr. Prabhat Kumar Upadhyay - Birla Institute of Technology, India

Prof.Dr. Avan Baneriee - IIEST, India

The IEM UEM group is an acclaimed educational group amongst today's industry-centred academic training organisations. IEM has set sublime standards in addressing the technical and managerial resource shortage in the new era of dynamic globalisation. The IEM UEM group has risen to fame for its strong foundation in teaching and R&D in multifaceted areas. It aims to serve the future generation and the Nation through its commitment towards selfsufficiency and unmatchable excellence. University of Engineering & Management (UEM) aims to provide an international ambience and exposure with innovative teaching techniques and courses which are tailor-made (technical & soft skills) for the job market giving the students the winning edge and competitive advantage during placements.

The International Conference on Advanced Computing and Systems (AdComSys) will foster an excellent international forum for exchanging knowledge and the recent developments in theory, methodologies and applications in Artificial Intelligent (AI) systems, Internet of Things (IoT) systems, Cybersecurity and Blockchain systems and emerging computing techniques. The AdcomSys aims to encourage the intense dialogues between academia and industry to bridge the gap between scholarly research, industrial initiatives and governmental policymaking. AdComsys 2024 will attribute to the diverse spectrum of keynote addresses, technical tracks, panel discussions and industry exhibits where academia can view state-of-the-art findings from the trials and interoperability experiments. Furthermore, the industry will benefit from exposure to leading-edge research and an opportunity to interact and fraternize with academic researchers on real-world issues.

The purpose of AdComSys 2024 is to solicit original research and technical papers from researchers, scientists, academicians, industry professionals and students to report their experience, new ideas and research results about advanced computing and systems to discuss the practical challenges encountered and solutions adopted.

AdComSys 2024 will be held at the University of Engineering and Management, Kolkata, on June 26th-27th, 2024.

## DOMAINS OF POTENTIAL EXPLORATION

## **Track 1: Emerging Computing**

Cloud Computing Dew Computing → Fog Computing Parallel Computing Mobile Computing Pervasive Computing Evolutionary Computation Cognitive Computing Green Computing Industrial Informatics Geoscience and Remote Sensing → Grid Computing Digital Forensics Human Centric Computing Quantum Cryptography Cognitive Intelligence Fuzzy Systems Affective Computing Audio, Speech and Video Biomedical and Health Informatics → Bioinformatics **Processing** 

Bio-inspired Computing Quantum Computing

Track 2: AI Systems Intelligent Systems Al with Robotics Al-based Image Processing Deep Learning Reinforcement Learning Explainable AI Active Learning Featured Learning Meta Learning Generative Models Generative Adversarial Network Soft Computing NLP-based Smart Systems Robotics Systems Data Analytics Systems → Big Data → Data Mining Automation

# Track 3: IoT Systems

→ IoT in Healthcare → IoT in Industry → IoT in Vehicular Network IoT in Agriculture IoT in Underwater Surveillance → IoT in Smart City Human Activity Recognition Wireless Sensor Networks → 5G & beyond 5G IoT in Everything → AlloT → Industry 4.0

# Track 4: Cyber Security Systems and Blockchain

Security, Privacy, Attacks, and Forensics Blockchain Authentication → Cryptocurrency Smart Contracts Encryption Techniques → Security in IoT Crypt Analysis Blockchain-based Machine Learning Dependable and Secure Computing Cybernetics

# PAPER SUBMISSION LINK

# https://cmt3.research.microsoft.com/AdComSys2024

Authors are solicitated to contribute to the conference by submitting articles at the above link that illustrate research results, projects, surveying works and industrial experiences that describe significant advances in computing, communication and automation.

Submission Guideline The papers must be submitted ONLINE though CMT Link. Please follow standard author instructions of Springer conference for paper format

Publication: All accepted and presented papers will be published by the Web of Science (WoS) indexed Springer Nature Book Series "Algorithms for Intelligent Systems" (https://www.springer.com/series/16171)

**Mode of Conference: Hybrid mode** 

## IMPORTANT DEADLINES

**Full Paper Submission Open:** 28th August 2023 **Full Paper Submission:** 6th December 2023 **Acceptance Notification:** 6th March 2024 **Early Bird Registration:** 25th March 2024 **Last Date of Registration:** 15th April 2024 **Final Camera Ready Paper** 1st May 2024 **Submission of Copyright:** 1st May 2024 **Date(s) of Conference** 26th & 27th June 2024

#### ORGANISING COMMITTEE

Prof. Dr. Satyajit Chakrabarti - Chancellor (University of Engineering and Management, Kolkata)

Prof. Dr. Sajal Dasgupta - Vice Chancellor (University of Engineering and Management, Kolkata)

Prof. Dr. Satyajit Chakrabarti - Pro-Vice Chancellor (University of Engineering and Management, Kolkata)

Prof. Dr. Sukalyan Goswami - Registrar (University of Engineering and Prof. Dr. Rajashree Paul - Deputy-Dean (University of Engineering and

Management, Kolkata) Prof. Dr. Kamakhya Prasad Ghatak - Dean-Engineering (University of

Engineering and Management, Kolkata) Prof. Dr. Rajiv Ganguly - Dean-Science (University of Engineering and

Management, Kolkata) Prof. Dr. Abir Chatterjee - Dean-Research (University of Engineering and

Management, Kolkata)

### \* General Chair

Prof. Dr. Maumita Chakraborty (Department of Computer Science and > Technology & Computer Science and Information Technology, University of **Engineering and Management Kolkata**) Prof. Dr. Weiping Ding (Deputy Dean of School of Information Science and

Technology, Nantong University, Nantong, Jiangsu, China) Prof. Dr. Shouvik Chakraborty (Department of Computer Science & Technology,

> Women's Polytechnic, Chandernagore, Government of West Bengal, Chandannagar, Hooghly, West Bengal, India)

# Prof. Dr. Maumita Chakraborty (University of Engineering and Management

\* Co-Conveners

Prof. Dr. Subhalaxmi Chakraborty (University of Engineering and Management Kolkata, India) Prof. Dr. Sudipta Basu Pal (University of Engineering and Management Kolkata,

Prof. Dr. Chiradeep Mukherjee (University of Engineering and Management

Prof. Sankhadeep Chatterjee (University of Engineering and Management

Kolkata, India)

# \* Technical Chair

Prof. Dr. Danilo Pelusi (University of Teramo, Faculty of Communication Sciences, Teramo, Italy)

▶ Prof. Dr. Valentina Emilia Balas (Aurel Vlaicu University of Arad, Romania)

Prof. Dr. Amlan Chakrabarti (A.K.Choudhury School of Information Technology University of Calcutta)

Prof. Dr. Asit Kumar Das (Department of Computer Science and Technology, Indian Institute of Engineering Science and Technology, Shibpur)

# \* Industry Chair

Neuromorphic Computing

Mr. Sushovan Chanda (TCS Innovation Cell) \* Finance Chair

# Mr. Indraneel Banerjee (University of Engineering and Management Kolkata)

\* Organizing Committee Members

Dr. Srilekha Mukherjee (University of Engineering and Management Kolkata,

Dr. Panchali Datta Choudhury (University of Engineering and Management

Dr. Anirban Chakraborty (University of Engineering and Management Kolkata,

Prof. Stobak Dutta (University of Engineering and Management Kolkata, India)

Dr. Prasenjit Kumar Das (University of Engineering and Management Kolkata, > Prof. Piyali Chandra (University of Engineering and Management Kolkata, India)

Prof. Pradipta Sarkar (University of Engineering and Management Kolkata, Prof. Sanjukta Mishra (University of Engineering and Management Kolkata,

Prof. Kamalika Bhowal (University of Engineering and Management Kolkata,

> Prof. Sudipta Sikdar (University of Engineering and Management Kolkata, India) Dr. Rajendrani Mukherjee (University of Engineering and Management Kolkata,

> Dr. Tapas Guha (University of Engineering and Management Kolkata, India)

Foreigner (USD)

# REGISTRATION

# India/SAARC (INR)

\*Regular Author Student

**Early Bird** - 4500 **> Early Bird** - 100 **→ Regular** - 5500 **→ Regular** - 150 \*Regular Author Academician, PhD Scholars

India/SAARC (INR) Foreigner (USD)

**Early Bird** - 5000 **▶ Early Bird** - 200 **→ Regular** - 6000 **→ Regular** - 250

#### Regular Author from Industry India/SAARC (INR)

Foreigner (USD) **Early Bird** - 7000 > Early Bird - 200 **→ Regular** - 8000 **→ Regular** - 250

#### Only Attending or Accompanying India/SAARC (INR)

Foreigner (USD) **Early Bird** - 2500 **▶ Early Bird** - 80 **→ Regular** - 2500 → Regular - 80

# All rates are exclusive of GST

**Contact Us** 

Dr. Subhalaxmi Chakraborty - 7003720703 Dr. Sudipta Basu Pal - 9674335060

Dr. Chiradeep Mukherjee - 9804244362 Prof. Sankhadeep Chatterjee - 8910874737

UNIVERSITY OF ENGINEERING & MANAGEMENT KOLKATA Address: University Area, Plot No. III – B/5, New Town, Action Area – III, Kolkata – 700160