



**International Conference on Innovations in Data Analytics  
(ICIDA 2024)**

*Organized by  
Eminent College of Management and Technology (ECMT)*

*Technically Sponsored by:  
Scientific Innovation Research Group (SIRG), Egypt  
Scientific Research Group in Egypt (SRGE), Egypt  
CIS lab, Argentina*

**Date: 18<sup>th</sup> – 19<sup>th</sup> December, 2024 (Hybrid Mode)**

**\*\*\*\*\* CALL FOR PAPERS \*\*\*\*\***

**SPECIAL SESSION**

**Distributed Computing and AI for Scalable Applications**

**SESSION ORGANIZERS:**



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**RECOMMENDED TOPICS:**

Topics to be discussed in this special session include (but are not limited to) the following:

1. Distributed AI Architectures

- Develop AI models to design for distributed and parallel computing environments.
2. Federated Learning and Privacy Preserving AI  
Federated learning frameworks for decentralized model training, keeping special attention on issues of privacy and security.
3. Edge Computing and Distributed AI  
Edge computing towards low latency, scalable AI applications.
4. Cloud Computing for Scalable AI  
Scalable AI Models and Services using the Cloud.  
Distributed Data Processing of Large Scale for AI  
Techniques and frameworks, such as Apache Spark, Hadoop, about processing large data collections in AI applications.
6. Resource Scheduling using AI Driven Resource Scheduling in Distributed Systems  
Optimization of resource allocation and scheduling to support efficient training and deployment of AI models.
7. Parallel Computing for Deep Learning and AI Models.  
Techniques for parallelizing deep learning models, in ensuring efficiency of training based on infrastructures that are in distribution.
8. AI for Distributed Sensor Networks  
Distributed AI applications in sensor networks: processing data in real time and decision making.
9. Blockchain for Decentralized AI Applications  
Utilization of blockchain technology to further enable decentralized applications, secure, and AI-driven applications on distributed networks.
10. Containerization and AI Deployment in Distributed Systems  
Kubernetes and Docker for distributed scalable AI model deployment.
11. Distributed Reinforcement Learning  
Reinforcement learning applications over distributed environments. This can be applied to large-scale decision making tasks.
12. Scaling Challenges for Distributed AI Systems  
How to scale an AI model deployed on multiple computing nodes?
13. Collaborative Learning with Distributed AI Systems  
Distributed AI model training methods between organizations or devices.
14. Energy Efficient Distributed AI  
Methods for energy efficiency in distributed AI to make distributed systems more sustainable.
15. Distributed AI Systems Latency Minimization  
Methods to reduce latency in real-time applications involving AI, distributed across different types of infrastructures.
16. AI-Based Fault Tolerance in Distributed Systems  
Distributed computing for fault tolerance and robustness in the AI applications.
17. Distributed AI for Internet of Things (IoT)  
Deploying the AI models on different types of IoT devices and distributed computing for big data in IoT.
18. High-Performance Computing for Scalable AI  
Use of HPC infrastructures for the acceleration of AI tasks for large-scale distributed applications.
19. Distributed AI for Secure and Trusted Environments  
Security threat concerns and trust management in AI-driven distributed systems.
20. Distributed AI in Co-design for Cloud Edge  
Cloud and edge resources to achieve high scalability and performance for AI applications.
21. Distributed AI for Real-time Applications  
Real-time AI processing on distributed systems in applications like self-driving cars, smart cities, and robotics.
22. Resource Optimization for Distributed AI Workloads  
Optimization of compute, memory, and storage resources for doing AI tasks in a distributed environment.
23. AI in Distributed Autonomous Systems  
Application of AI in distributed autonomous systems, including drones and robotic fleets.

24. Distributed AI in Large Scale Health Care Systems

AI solutions for processing of medical data across distributed health care networks for scalable and real time diagnosis and prediction.

25. Interoperability in Distributed AI Systems

Ensuring interoperability between the different components and systems present in distributed AI infrastructures.

**PUBLICATION AND SUBMISSION PROCEDURE**

The conference aims at carrying out double-blind review process. The papers submitted by the authors will be assessed based on their technical suitability, the scope of work, plagiarism, novelty, clarity, completeness, relevance, significance, and research contribution. The conference proceedings will be published in **Springer LNNS Series (Scopus)**.

Website: <http://icida.ikrf.in>

Submission Link: <https://cmt3.research.microsoft.com/ICIDA2024>

Submission Deadline: **20<sup>th</sup> October, 2024**

**NOTE: While submitting the paper in this special session, please specify [Distributed Computing and AI for Scalable Applications] at the top (above paper title) of the first page of your paper.**

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