ICICC-2024

7th International Conference on Innovative Computing and Communication

ORGANISED BY: SHAHEED SUKHDEV COLLEGE OF BUSINESS STUDIES, UNIVERSITY OF DELHI, NEW DELHI IN ASSOCIATION WITH NATIONAL INSTITUTE OF TECHNOLOGY, PATNA & UNIVERSITY OF VALLADOLID SPAIN

On

16-17th FEBRUARY 2024.

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

SPECIAL SESSION ON

System Design & ML/AI for Secure IoE in Cloud Era

SESSION ORGANIZERS:

Dr Manoj Sharma, Associate Professor, BVCOE ND, Afflt. GGSIPU, New Delhi, India, manojs110281@gmail.com
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Dr Nitin Sharma, Assistant Professor, MAIT, ND,
Dr Manoj Kumar, Assistant Professor, , USAR, GGSIPU, East Delhi Campus, ND

EDITORIAL BOARD: (Optional)

Dr Hari Chauhan, Analog Devices Inc, USA
Dr Manoj Kumar Taleja, Professor, NITD, Delhi, India
Dr Arti Noor, CDAC Noida, Govt of India

SESSION DESCRIPTION:

The primary objective of this special session is to establish a forum for the convergence of researchers, industry experts, academicians, and innovators to delve into the ever-evolving landscape of Integrated Circuit (IC) design technologies within the context of a secure and interconnected world. In an era driven by technological advancements, the interconnection of devices holds a pivotal role, with the Internet of Everything (IoE) at the forefront of augmenting human life through enhanced hardware capabilities.

This session underscores the critical importance of Artificial Intelligence (AI) and Machine Learning (ML) in the realm of system design. AI and ML technologies are instrumental in enabling efficient decision-making processes, optimizing system performance, and ensuring security in the era of IoE and cloud computing. The seamless integration of AI and ML into system design not only accelerates

innovation but also enables adaptive and self-improving systems, thereby reshaping the landscape of secure and connected IoE environments.

The platform aims to facilitate a comprehensive discourse on the emerging trends in circuit design technologies that are strategically aligned with the paradigms of cloud computing and IoE. In this interconnected world, various applications demand a specialized focus on circuit and system design to effectively harness the potential of cloud computing, IoE, and the transformative power of AI and ML. This collaborative effort in VLSI, embedded system architectures, circuit design, and applications that embrace AI and ML further emphasizes the integral role these technologies play in advancing the secure and connected world of tomorrow. By bringing together diverse perspectives and expertise, the special session aspires to foster a vibrant exchange of ideas and innovation, thereby contributing to the ongoing evolution of the global technological landscape.

RECOMMENDED TOPICS:

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

Suggested Topics for the Special Session:

1. **AI and ML in System Design**: Explore the integration of AI and ML techniques to enhance circuit/system design processes, including optimization, security, and decision-making.
2. **IoE and Cloud Computing Integration**: Discuss the synergies between the Internet of Everything (IoE) and cloud computing, and how they shape the landscape of circuit design.
3. **Secure IoT Hardware**: Delve into hardware-based security solutions for interconnected IoT devices, emphasizing AI and ML-driven security measures.
4. **Adaptive System Design**: Investigate the use of AI and ML to create adaptive and self-improving systems in system design, with applications in IoT and cloud environments.
5. **Emerging Technologies in VLSI**: Explore the latest trends and emerging technologies in circuit design (at any abstract level) and their impact on secure and connected systems.
6. **Machine Learning for Circuit Optimization**: Discuss machine learning algorithms for optimizing circuit design, including power efficiency, performance, and fault tolerance.
7. **Edge Computing and IC Design**: Address the role of IC design in edge computing for IoT devices and real-time data processing, enabled by AI and ML.
8. **AI/ML and IC systems for Healthcare**: Explore their applications in healthcare, including AI-driven medical devices and wearables for remote patient monitoring.
9. **AI in Signal Processing**: Discuss the use of AI and ML in digital signal processing for applications like speech recognition, image processing, and sensor data analysis.
10. **AI Hardware Acceleration**: Examine the design of hardware accelerators for AI workloads, such as neural network inference and training.
11. **AI-Enhanced Verification and Validation**: Cover AI-driven methodologies for design verification, fault detection, and post-silicon validation in IC design.
12. **Energy-Efficient IC Design**: Explore AI and ML techniques for designing energy-efficient ICs, especially for battery-powered IoT devices.
13. **Security Assurance for systems**: Discuss security challenges and solutions in system/IC design, including AI-driven threat detection and mitigation.
14. **Ethical Considerations in AI-Driven IC Design**: Deliberate the ethical implications of using AI and ML in IC design, addressing transparency, bias, and data privacy.
15. **Industry Case Studies**: Present real-world case studies of how AI and ML have revolutionized IC design in various industries.

These topics cover a wide spectrum of IC design, with a strong emphasis on the role of AI and ML in shaping the secure and connected world of tomorrow.

SUBMISSION PROCEDURE:

Researchers and practitioners are invited to submit papers for this special theme session on **[session name]** ***on or before*** **[30th November 2024]**. All submissions must be original and may not be under review by another publication. INTERESTED AUTHORS SHOULD CONSULT THE CONFERENCE'S GUIDELINES FOR MANUSCRIPT SUBMISSIONS at https://icicc-conf.com/paper_submission. All submitted papers will be reviewed on a double-blind, peer review basis.

NOTE: While submitting paper in this special session, please specify [**Session Name**] at the top (above paper title) of the first page of your paper.

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