Unleashing the Intelligent Edge: AI, Signal Processing, and Security for Next-Generation Computing

Abstract:

The future of computing lies at the edge, where data processing and decision-making occur closer to their source. However, edge computing also faces a number of new difficulties in handling complex data structures to implement intelligent techniques with built-in security features due to the resource-constrained (such as compute, DRAM capacity, and battery) nature of edge devices. This workshop explores the powerful combination of artificial intelligence (AI), advanced signal processing, and robust security in this new computing paradigm. We will delve into the challenges and opportunities of harnessing these technologies at the edge. This includes discussions on developing efficient AI models for resource-constrained edge devices, advanced signal processing techniques for extracting meaningful insights from data, and ensuring secure communication and data integrity across the edge network.

The workshop welcomes researchers, practitioners, and industry professionals from various branches of computer science interested in pushing the boundaries of edge computing. We aim to showcase cutting-edge research, practical solutions, and open research questions that will shape the future of intelligent computing at the edge. This forum will foster knowledge sharing and collaboration and accelerate breakthroughs in a wide range of applications.

IEEE COINS 2024 invites contributions on a variety of edge computing-related issues, including (but not limited to) the following:

·   Artificial Intelligence in Edge Computing

·   Security and fault tolerance for embedded or ubiquitous systems

·   Green cloud-Edge computing

·   Quality of Service (QoS) improvements techniques

·   Real-time Signal processing architectures and systems

·   FPGA, GPU, ASIC technologies for high performance data analytics.

·   Emerging computing techniques (Ex. Neuromorphic Computing)

Organizer:

- Sangeet Saha, University of Essex, UK

Bio: Sangeet Saha is currently associated with the Embedded and Intelligent Systems (EIS) Research Group, University of Essex, UK, as a lecturer. Prior to that, he worked as a lecturer at the University of Huddersfield, UK, and as a senior research officer (postdoctoral scholar) at the University of Essex, UK. His current research interests include real-time scheduling, scheduling for reconfigurable computers, secure embedded systems, IoT, and cloud/edge computing. He successfully led one UKRI project as a PI and is currently involved with various EPSRC projects.

Technical Program Committee:

- Klaus D McDonald-Maier, University of Essex, UK,
- Chandrajit Pal, University of Essex, UK
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- Zhifeng Zhong, Hubei University, China
- Yanghong Tan, Hunan University, China
- Bilal Aslam, University of Taxila, Pakistan

Important Dates:

Paper Submission Deadline:	01 May, 2024
Authors Notification:	01 June 2024
Camera-Ready Paper Due:	20 June 2024
Workshop Date:	29-31 July 2024 (Specific date TBC)

Make your submission to track 'Workshop on Unleashing the Intelligent Edge: AI, Signal Processing, and Security for Next-Generation Computing' on COINS 2024 EasyChair.

Submission Guidelines:

Please submit your paper via the EasyChair submission system. At least one author of each accepted paper is required to register and present their work at the conference; otherwise the paper will not be included in the proceedings.

Accepted manuscripts will be included in the COINS conference proceedings as workshop papers and will be indexed in the IEEE Xplore Digital Library.