

COINS 2020

IEEE International Conference on Omni-layer Intelligent systems

Track Name: Circuits and Systems (CAS) Designs for Future Artificial Intelligence, Internet of Things, and Big Data Applications

Call for Papers

July 27-29, 2020
Barcelona, Spain
<https://coinsconf.com>



The trend of Internet of Thing (IoT) and Big Data applications drive the machine learning technology development. The devices for the IoT applications provide sensing, actuation, processing, and communication at ultralow-power levels and at very low cost. Thereby, they must be to be resilient in the face of harsh environments, challenging communication requirements, and long lifetimes that may reach beyond the useful lives of the individual nodes. This track first explores the designs of circuits and systems for the future IoT era.

On the other hand, emerging IoT applications demand for increasingly high data collection rates and significant computational requirements that often do not fit in the stringent power envelopes of the existing IoT devices. Through the hierarchical IoT structure, the datacenters and cloud servers are usually used to empower the IoT systems by performing massive data processing on behalf of the IoT users. In this track, the emerging IoT structure or cross-layer collaboration to process the massive data will be investigated.

According to the data process in the IoT applications, Artificial Neural Network (ANN) or Spiking Neural Network (SNN) has shown significant advantages in many domains. Current large-scale ANNs, however, involve complex communication, extensive computations, and storage requirements, which are beyond the capability of current resource-constraint IoT devices. In the last exploration of this track, we aim to find an efficient way to design the circuits and systems for the machine learning technology.

The track is motivated by these reasons and the topics of interest include, but not limited to:

- Sensory Circuits & Systems for IoT
- Communications Circuits & Systems for IoT
- Energy-aware Circuits and Systems for IoT applications
- Circuits & Systems for Big Data Processing
- Artificial Intelligence Circuits and Systems
- Neural Networks & Neuromorphic Engineering
- Emerging Technologies in CAS (e.g., Beyond CMOS)
- Application and architecture of artificial neural network

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Key Dates



Submission of Regular Papers and Special Session Papers
March 06, 2020



Notification of Paper Acceptance
May 06, 2020



Camera-Ready Submission
May 16, 2020



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