Challenges in Circuit Designs of Computing-in-Memory for Tiny Machine Learning Devices

Memory has proven a major bottleneck in the development of energy-efficient chips for Intelligent Tiny Machine Learning devices. Recent emerging memory devices not only serve as memory macros, but also enable the development of computing-in-memory (CIM) for IoT and AI chips. In this talk, we will review recent trend of memory and AI+IoT chips. Then, we will examine some of the challenges, circuits-devices-interaction, and recent progress of silicon-proven SRAM and emerging-memory based CIMs for Tiny Machine Learning devices.