《Understanding the Role of Energy Supply in Modern Computing and Communication Systems》

Abstract:

Energy plays a crucial role in today’s IT and communication sectors. Yet the current design of computing and communication systems largely treat energy supply as a black box, with limited understanding about their working conditions, not to mention optimal integration. In this talk, we will present our recent works on data-driven edge datacenter/base station backup battery analysis and optimization. We also strongly believe that batteryless will be the future for tiny IoT devices. We accordingly present a series of our recent works on batteryless communication and sensing, including high-throughput and multi-hop backscatter, distribution excitation, multi-track acoustic sensing with ambient energy, etc.