

Evolution and Trends in Edge AI Systems and Architectures for the Internet of Things Era

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On-line <https://meet.google.com/zor-ezwt-zdt>

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Resumen:

The evolution of semiconductor process technologies has enabled the design of low-cost, compact and high-performance embedded systems, which have enabled the concept of Internet of Things (IoT). In addition, technological advances in communication protocols and unsupervised Machine Learning (ML) techniques are leading to disruptive innovations. As a result, the IoT, a new era of massive numbers of smart connected devices, can enhance processes and enable new services in established industries, creating smart cities, e-health businesses, or industry 4.0. However, major challenges remain in achieving this potential due to the inherent complexity of designing energy-efficient IoT architectures. Prof. Atienza will first present the challenges of ultra-low power (ULP) design and communication overhead in next-generation IoT devices in the context of Big Data processing. Then, the benefits of exploiting the latest knowledge of how mammalian nervous systems acquire, process, and share information between the internal systems to conceive future edge AI-enabled architectures for IoT will be discussed

Sobre David Atienza:

David Atienza is a Full Professor of Electrical and Computer Engineering and heads the Embedded Systems Laboratory (ESL) at EPFL. He received his MSc and Ph.D. degrees in Computer Science and Engineering from UCM and IMEC. His research interests focus on system-level design methodologies for energy-efficient computing systems, particularly multi-processor system-on-chip architectures (MPSoC) for cloud computing and next-generation edge AI architectures. He is a co-author of more than 350 publications, 13 patents, and has received several best paper awards in top conferences in these fields. Dr. Atienza received, among other recognitions, the ICCAD 2020 10-Year Retrospective Most Influential Paper Award, the DAC Under-40 Innovators Award in 2018, the IEEE CEDA Early Career Award in 2013, and the ACM SIGDA Outstanding New Faculty Award in 2012. He is an IEEE Fellow, an ELLIS Fellow, and an ACM Distinguished Member. He was the President (2018-2019) of IEEE CEDA.