Special Issue

Novel Device for Computing-In Memory

Message from the Guest Editors

Today's computing is not limited to designing an application graph of the desired work for available hardware and then starting the execution; it is more application-specific and data-centric. Von-Neumann architecture is widely for flexible design space but limits performance due to data movement between the processor and memory, which depends on memory speed and bandwidth. Computing in memory (CIM) is an alternative processor design technique where processing is carried out inside the memory itself. It attracts manly data-centric applications such as neuromorphic computing, machine learning, and soft computing. This Special Issue covers all topics related to the full CIM stack: device entry, fabrication, measurement, data analysis circuit design, architecture, algorithm, accelerator design, and applications.

Keywords: Computing-in Memory (CIM), In-Memory Computing (IMC), Processing in Memory (PIM), Computational modeling, Central Processing Unit, accelerator design, Image processing, SRAM, DRAM, Flash, FeFET, MRAM, RRAM, TCAM, FPGA, ASIC, Artificial Intelligence, Machine learning, Data-Centric Hardware, Neuromorphic engineering, Deep Neural Network (DNN)

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Electronics is a multidisciplinary journal designed to appeal to a diverse audience of research scientists, practitioners, and developers in academia and industry. The journal is devoted to fast publication of latest technological breakthroughs, cutting-edge developments, and timely reviews of current and emerging technologies related to the broad field of electronics. Experimental and theoretical results are published as regular peer-reviewed articles or as articles within Special Issues guest-edited by leading experts in selected topics of interest.

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