CASES is a premier forum where researchers, developers and practitioners exchange information on the latest advances in compilers and architectures for high-performance, low-power, and domain-specific embedded systems. The conference has a long tradition of showcasing leading edge research in embedded architectures for processor, memory, interconnect, and storage, as well as related compiler techniques targeting performance, power, security, reliability, predictability issues for both traditional and emerging application domains. We also invite innovative papers addressing design, synthesis & optimization challenges in heterogeneous, accelerator-rich architectures.

Compilers for Embedded Systems: Compilation for power and performance; Compiler support for CPU, GPU, reconfigurable computing, heterogeneous and domain-specific multi-core SoC; Compilation for memory, storage, and on-chip communications.

Processor Architectures: Embedded and mobile processor micro-architecture, Multi- and many-core processors, GPU architectures, Reconfigurable computing including FPGAs and CGRAs, Application-Specific processor design, 3D-stacked architectures; Power- and energy-efficient architectures.

Memory and Storage: Memory system architecture; Non-volatile and other emerging memory technologies; Scratchpad memory, caches and compiler-controlled memories; storage organization including flash storage.

On-chip communication and I/O: Networks-on-chip architectures and design methodologies; on-chip communication synthesis, analysis, and optimization; I/O management in embedded systems.

Accelerators: Synthesis, optimization, and design-space exploration of high-performance, low-power accelerators; Novel design paradigms and compilers for accelerators including approximate computing, machine learning and big-data analytics.

Security, Reliability, and Predictability: Secure architectures, hardware security, and compilation for software security; Architecture and compiler techniques for reliability and aging; Modeling, design, analysis, and optimization for timing and predictability; Validation, verification, testing & debugging of embedded software.

Emerging Applications: Architectures, accelerators, and compilers for machine learning, neuromorphic & cognitive computing, data analytics; biologically inspired computing systems.

Trusted IoT Day: A special day will be jointly organized by the conferences in ES WEEK. Articles aligned to the topics of interest for CASES, with distinct focus on trusted IoT are most welcome.

CAS CASES 2019 has a dual publication model with two tracks: Journal track papers will be published in the IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems (TCAD) and Work-in-Progress track papers will be published in the ES WEEK Proceedings. More details at http://www.esweek.org/author-information

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