Call for Papers

International Conference on
Compilers, Architectures, and Synthesis for Embedded Systems
October 13 – October 18, 2019, New York City, USA

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 embedded systems. The conference has a long tradition of showcasing leading edge research in embedded processor, memory, interconnect, storage architectures and 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.

Journal-Track Submissions
  Abstract: April 5, 2019
  Full Paper: April 12, 2019 (firm)
Work-in-Progress Submissions
  June 7, 2019 (firm)
Notification of Acceptance
  July 10, 2019 (both tracks)

Compilers for Embedded Systems: Compilation for power and performance; Compiler support for CPU, GPU, reconfigurable computing, heterogeneous 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 for accelerators including approximate computing 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 and accelerators for machine learning, neuromorphic & cognitive computing, data analytics; biologically inspired computing systems.

Special Day on the Internet of Medical Things: A special day will be jointly organized by the conferences in ESWEEK. Articles aligned to the topics of interest for CASES, with distinct focus on medical devices/ healthcare platforms are welcome.

CASES 2019 has a dual publication model with two tracks: Journal track papers will be published in the ACM Transactions on Embedded Computing Systems (TECS) and Work-in-Progress track papers will be published in the ESWEEK Proceedings. More details at http://www.esweek.org/author-information

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