

IEEE Embedded Systems Letters

Call for Papers: Special Issue on Real-Time Technologies in CPS

Introduction

This special issue of Embedded Systems Letters will focus on research themes in real-time and Cyber-Physical Systems (CPS) related to the concluded conference IEEE 20th International Symposium on Real-Time Computing (ISORC), 2017. The objective is to present papers that explore the use of object/component/service-oriented real-time distributed computing (ORC) technology in the design of CPS. Besides papers related to ISORC's 2017 theme of scalable and real-time data analytics, we also welcome papers in other real-time CPS topics such as programming models, systems engineering, distributed computing and communication infrastructures, systems software, and technologies for resilience.

Scope

The scope of this special issue includes all areas related to real-time computing and communication technologies for CPS. In particular, papers that explore ORC technology and real-time data analytics for CPS are welcome. Besides regular research papers, perspective papers that present a grand challenge problem, charter a new direction of research, express a contradictory viewpoint, or promote an interdisciplinary research area related to the topic of this special issue are also welcome.

Topics of interest include but are not limited to the following:

- Scalable and Real-Time Data Analytics: Algorithms and computational infrastructure to support real-time data analytics, case-studies and applications in real-time data analytics.
- Programming Models and Systems Engineering: Object/component modelling frameworks, real-time language frameworks including synchronous languages, model-driven design and development, time-predictable hardware and software architecture design.
- Distributed Computing and Communication Infrastructure: Real-time communication protocols, networked platforms, peer-to-peer computing, real-time wireless sensor networks.
- Systems Software: Real-time kernels and OS, middleware support for ORC, quality-of-service management, resource synchronization, allocation and scheduling.
- Resilience: Trusted and dependable systems, fault tolerance, security, self-awareness, resilient hardware and software architectures.

Submission Guidelines

Submitted papers must strictly follow the IEEE Embedded Systems Letters guidelines (<http://www.ieee-ceda.org/publication/esl-publication/author-guidelines>). Papers must be four pages or fewer in length, including all figures, tables and references. Papers should follow the IEEE transactions two-column format in 10-pt. font, and must consist of original work that has not been previously published nor is currently under review elsewhere. Authors of ISORC 2017 who wish to submit a paper based on their conference publication, please note that your submission should either be a self-contained extension or a perspective paper on the topic of the publication. **It is very important to select "Special Issue on Real-Time Technologies in CPS" as the submission type when submitting your papers (submission link: <https://mc.manuscriptcentral.com/les-ieee>).**

Schedule

Full paper submission deadline: 30th January, 2018

First author notification: March, 2018

Revised paper due: April, 2018

Final author notification: May, 2018

Expected publication: July, 2018

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