



Special Issue on

Software-Driven Edge Computing and Artificial Intelligence of Things

Software: Practice and Experience (Wiley Press)

Call for Papers

The integration of Artificial Intelligence (AI) and Internet of Things (IoT) has led to the emergence of Artificial Intelligence of Things (AIoT), which is a promising area of research and development. AIoT has the potential to revolutionize the way we live and work by enabling intelligent decision-making, automation, and predictive analysis in various applications such as smart homes, smart cities, and Industry 4.0. However, the massive amount of data generated by AIoT devices poses significant challenges in terms of processing, storage, and communication. As a decentralized computing paradigm, edge computing can help to address these challenges by enabling data processing and analysis at the network edge.

With the increasing adoption of IoT devices and the need for real-time data processing, there is a growing demand for software-driven edge computing solutions. Moreover, smart and big data techniques can be used to extract meaningful insights from the massive amount of data generated by AIoT devices. Software-driven edge computing solutions enable real-time data processing and decision-making at the edge, while AI algorithms and techniques enhance the intelligence of IoT devices. However, the development of software solutions for edge computing and AIoT poses significant challenges, including limited resources, security concerns, and interoperability issues. A commonly-accepted theory/model/architecture to achieve autonomous and interactive intelligence using edge computing and AIoT for software is missing.

The object of this special issue is to bring together researchers and practitioners from both academia and industry to present their latest research results, insights, and perspective on software-driven edge computing and AIoT. It aims to explore the latest software innovations in edge computing and AIoT, including but not limited to:

Topics of interest include including but not limited to:

- Software architecture for edge computing and AIoT
- AI algorithms and techniques for edge computing and AIoT
- Edge computing-powered AIoT
- Smart/Big data techniques for software development in AIoT

- AIoT applications in smart homes, smart cities, and Industry 4.0
- AIoT data management and analytics
- Software development methodologies for AIoT
- Edge computing in software development for AIoT
- Security and privacy concerns in software-driven edge computing and AIoT
- Performance evaluation and optimization of software-driven edge computing systems
- Edge computing and AIoT applications in various domains such as healthcare, transportation, manufacturing, and agriculture
- Edge-to-cloud integration and interoperability

Important Dates

Submission due date: 31st March, 2024

Notification: 31st May, 2024

Revision due: 31st July, 2024

Notification of final acceptance: 31st August, 2024

Submission of final manuscript: 30th September, 2024

Special Issue Paper Submission

We seek submission of papers that present new and innovative ideas. All submissions including invited papers will undergo the regular peer review process.

Priority will be given to the manuscripts that present novel and original work for the “first” time in SPE. Submission of “extended version” of published conference should contain a significant number of “new and original” ideas/contributions with more than 50% brand “new” contents. If you are submitting an extended version, you must submit a cover letter/document detailing (1) the "Summary of Differences" between the SPE paper and the earlier paper, (2) a clear list of "new and original" ideas/contributions in the SPE paper (identifying sections where they are presented), and (3) confirming the percentage of new material, and (4) the original conference paper. Otherwise, the submission will be “desk” rejected without being reviewed.

While submitting a paper to this issue, please select “**SPE-SI_Software-Driven Edge Computing and Artificial Intelligence of Things**” in the submission system.

Regular Issue Submission

If you have a paper on edge computing, fog computing, cloud computing, or Internet of Things, which does not match the scope of this Special Issue, we encourage you to submit it as a regular paper to *Software: Practice and Experience*. The journal has expanded its coverage to specifically include these distributed computing paradigms.

Guest Editors

A/Prof. Huaming Wu (Lead Editor)

Tianjin University, China
Email: whming@tju.edu.cn

Prof. Houbing Herbert Song
University of Maryland, Baltimore County (UMBC), USA
Email: songh@umbc.edu

Prof. Xiaokang Wang
Hainan University, China
Email: xkwang@hainanu.edu.cn

Prof. Katinka Wolter
Free University of Berlin, Germany
Email: katinka.wolter@fu-berlin.de

A/Prof. Yuemin Ding
University of Navarra, Spain
Email: yueminding@tecnun.es