

Call for Papers

MLSYSOPS 2023

The 1st International Workshop on **Machine Learning for Autonomic System Operations** in the Device-Edge-Cloud Continuum

In conjunction with the International Conference on Embedded Wireless Systems and Networks (EWSN 2023)
Sept. 25-27, 2023, Rende, Italy

CALL FOR PAPERS

To address the ever-increasing deluge of data collected and processed by computing systems, the trend of edge computing is establishing the effectiveness of processing data as close as possible to their source, often consisting of dense networks of wireless sensor nodes and IoT devices. It is predicted that by 2025 around 80% of enterprise data will be generated and processed outside the traditional cloud. In fact, edge computing is becoming even more attractive with the advent of energy-efficient micro-servers and powerful embedded devices with significant storage and processing capabilities. The advent of device-cloud-edge (D-E-C) computing aggravates the challenging task of managing heterogeneous and distributed resources, this time at an extreme scale, making human-in-the-loop management completely unrealistic. To achieve dynamic and flexible system and application management with minimal user involvement, the concept of autonomic computing systems was proposed as “computing systems that can manage themselves given high-level objectives from administrators”. However, the scale, heterogeneity, high dynamicity, and intrinsic local properties/variability of the continuum yields rule-based approaches – traditionally used in autonomic systems – insufficient. Machine learning-/AI-driven management is a promising alternative, but the quest to extend this to the full continuum faces several challenges such as scalability, heterogeneity, dynamics, trust & security, and transparency. The goal of the workshop is therefore to bring together a community of researchers and practitioners who study problems at the intersection of AI/ML, autonomic and cognitive computing, D-E-C continuum, distributed system operation, and resilient application deployment.

TOPICS

Workshop suggested topics include, but are not limited to empirical and theoretical studies of the following:

- Autonomic management and control of D-E-C continuum;
- ML/AI-driven approaches for system operation of dynamic, large-scale, heterogeneous continuum systems;
- Agent-oriented architectures for D-E-C continuum orchestration;
- Cognitive computing models in the edge-cloud continuum;
- AI/ML-based management of computing, networking and storage resources in the continuum;
- Green, resource-efficient techniques for system operation;
- AI/ML-based trust and security methods in the edge-cloud continuum;
- Network and System Simulators for the D-E-C continuum;
- AI/ML-based application deployment in continuum systems.

Workshop Chairs

Raffaele Gravina
University of Calabria, Italy
Spyros Lalas
University of Thessaly, Greece
Dimitris Chatzopoulos
University College Dublin, Ireland

Industry Chair:

Massimiliano Rossi
NTT Data, Italy

Technical Program Committee

Christos Antonopoulos (UTH)
Nikos Bellas (UTH)
Giuseppe D’Aniello (UNISA)
Weilin Zang (SIAT)
Kaitai Liang (TUD)
Valeria Loscri (INRIA)
Congcong Ma (NTU)
Francesco Cauteruccio (UNIVPM)

Important Dates

Paper Submission Deadline:

31 May 2023

10 June 2023 (firm extension)

Paper Notification:

15 June 2023

Camera Ready Deadline:

30 June 2023

Workshop Date

25 September 2023

Submission

Paper Submission is managed through EasyChair at: easychair.org/conferences/?conf=ewsn2023 in the MLSysOps 2023 Track.

Workshop papers should not exceed 6 pages.

Paper format template is available at ewsn2023.dimes.unical.it

All accepted papers will be indexed in the ACM Digital Library, SCOPUS, and other prominent digital libraries.