9th International Workshop on Serverless Computing (WoSC9)

Part of ACM/IFIP Middleware 2023. (http://2023.middleware-conference.org/)

WoSC9 will be hybrid this year with both virtual and on-location formats. Please note that while hybrid formats will be supported for workshops, the Middleware 2023 steering committee wants the main conference to be held in in-person only. Prospective attendees of the workshop should keep this in mind if they plan to attend both WoSC9 and Middleware 2023.

Over the last nine years, Serverless Computing (Serverless) has gained an enthusiastic following in industry as a compelling paradigm for the deployment of cloud applications, and is enabled by the recent shift of enterprise application architectures to containers and microservices. Many of the major cloud vendors have released serverless platforms, including Amazon Lambda, Google Cloud Functions, Microsoft Azure Functions, IBM Cloud Functions. Open source projects are gaining popularity in providing serverless computing as a service.

Recently, Kubernetes gained in popularity in enterprise and in academia. Several open source projects such as OpenFaaS and Knative aim to provide developers with serverless experience on top of Kubernetes by hiding low-level details. Auto-scalable Multi-tenant Kubernetes deployments like Google

Cloud Run or IBM Code Engine also overcome previous limitations of Serverless Functions like duration, networking, and higher granularity (more vCPUs).

Serverless on the cloud is a somewhat mature research area with many conferences accepting papers on this topic. In the spirit of having this workshop serve as a venue for future and exploratory research directions, we will be evolving the workshop to include hybrid cloud environments, as well as edge and IoT devices. These next-gen computing architectures are becoming more common but have little support from serverless platforms and bring new challenges to old concerns such as resource optimization, scaling, cost, monitoring, and ease of use. The serverless experience becomes an important topic for emerging topics such as DevOps and Platform Engineering (https://platformengineering.org/) in industry and will be critical to the success of next-gen computing.

Building on the recent advances in generative AI, including Large Language Models (LLMs) and other types of Foundations Models (FMs), the workshop also plans to explore the use of hybrid serverless platforms to fine-tune, serve, and manage the lifecycle of LLMs with a focus on aspects such as use cases, resource allocations, optimizations, and using AI to improve serverless experience.

This workshop brings together researchers and practitioners to discuss their experiences and thoughts on future directions of serverless research.

As this year the workshop is hybrid and we are looking not only for research papers, experience papers, demonstrations, or position papers but also for live presentations of ongoing work, demonstrations, and anything else that may be interesting to workshop audience.

The latest version of this CFP is available at http://serverlesscomputing.org/wosc9/ (http://serverlesscomputing.org/wosc9/)

Topics

This workshop solicits papers from both academia and industry on the state of practice and state of the art in serverless computing. Topics of interest include but are not limited to:

- Infrastructure and network optimizations for serverless applications
- Multi-cloud and hybrid cloud for serverless and next-gen computing like Edge, Fog, IoT, etc.
- Serverless and next-gen computing in Industry such as Platform Engineering and Internal Developer Platforms and other areas
- Next-gen data platform and how to use it with serverless-like approaches
- AI assist and generative LLMs such as ChatGPT applied to serverless experience
- Low-code and no-code - new programming abstractions
- Developer productivity: from local code to observability and maintenance
- Debugging serverless applications
- Programming models
- Use cases, experiences
- Benchmarks
- Cost models, pricing models, and economics of serverless
- DevOps
- Confidential computing
- Sustainable computing
- Granular computing,
- Super-lightweight containers Web Assembly
- Swarm intelligence
- Other topics related to serverless computing

Important Dates

Paper Submission: **September 25, 2023**
Notification of Acceptance: **October 10, 2023**
Final Camera-Ready Manuscript (Hard Deadline): **October 20, 2023**
Non-paper submissions (demos and other proposals): **November 10,**

2023
Author registration deadline: TBD
Conference: December 11-15, 2023

Papers and Submissions

Papers submissions

Authors are invited to submit original, unpublished research/application papers that are not being considered in another forum.

Submitted manuscripts should be structured as technical papers and may not exceed six (6) single-spaced double-column pages using ACM SIGPLAN style, which can be found on the ACM template page. The page limit contains all the content, including bibliography, appendix, etc.

Submitted papers must adhere to the formatting instructions of the ACM SIGPLAN style, which can be found on the ACM template page (https://www.acm.org/publications/proceedings-template). **The font size has to be set to 10pt.**

The Middleware conference organizers will provide companion proceedings including all workshop papers, which will be available in the ACM Digital Library. This is subject to the availability of their camera-ready papers by October 20, 2023.

Authors should submit the manuscript in PDF format. All manuscripts will be reviewed and will be judged on correctness, originality, technical strength, rigour in analysis, quality of results, quality of presentation, and interest and relevance to the conference attendees. Papers conforming to the above guidelines can be submitted through the paper submission system powered by HotCRP (https://wosc2023.hotcrp.com/ (https://wosc2023.hotcrp.com/)).

All submitted manuscripts (following MIDDLEWARE conference requirements on formatting and page limits) will be peer-reviewed by at least 3 program committee members. Accepted papers with confirmed presentation will appear in the conference proceedings as well as in the ACM Digital Library.

Other submissions

Authors are invited to submit proposals for demos and other presentations that are not papers.

Proposals must be submitted as short abstracts (not longer than one page) in PDF format using the paper submission system HotCRP (https://wosc2023.hotcrp.com/ (https://wosc2023.hotcrp.com/)).

Accepted presentations will not be part of the conference proceedings but will be part of the workshop agenda with dedicated time for live presentation (with video backup), questions etc.

Workshop co-chairs

Paul Castro, IBM Research
Pedro García López, University Rovira i Virgili
Vatche Ishakian, IBM Research
Vinod Muthusamy, IBM Research
Aleksander Slominski, IBM Research

Steering Committee

Geoffrey Fox, Indiana University
Dennis Gannon, Indiana University & Formerly Microsoft Research
Arno Jacobsen, MSRG (Middleware Systems Research Group)

Program Committee (tentative)

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