Message from the WoSC 2017 Workshop Organizers

Serverless Computing, Serverless is emerging as a new and compelling paradigm for the deployment of cloud applications, and is enabled by the recent shift of enterprise application architectures to containers and micro-services. Many of the major cloud vendors, have released serverless platforms within the last two years, including Amazon Lambda, Google Cloud Functions, Microsoft Azure Functions, IBM OpenWhisk. There is, however, little attention from the research community. This workshop brings together researchers and practitioners to discuss their experiences and thoughts on future directions.

Serverless architectures offer different tradeoffs in terms of control, cost, and flexibility. For example, this requires developers to more carefully consider the resources used by their code, time to execute, memory used, etc. when modularizing their applications. This is in contrast to concerns around latency, scalability, and elasticity, which is where significant development effort has traditionally been spent when building cloud services. In addition, tools and techniques to monitor and debug applications aren’t applicable in serverless architectures, and new approaches are needed. As well, test and development pipelines may need to be adapted. Another decision that developers face are the appropriateness of the serverless ecosystem to their application requirements. A rich ecosystem of services built into the platform is typically easier to compose and would offer better performance. However, composing external services may be unavoidable, and in such cases, many of the benefits of serverless disappear, including performance and availability guarantees. This presents an important research challenge, and it is not clear how existing results and best practices, such as workflow composition research and even conventional libraries, can be applied in a serverless environment.

All the major cloud vendors, including Amazon Web Services, AWS, Google, Microsoft, and IBM have released serverless platforms within the last two years. These platforms impose a radical shift in how applications are designed, developed, deployed, and maintained. However, they are not very well understood among practitioners, and the tools and practices for these platforms are immature or non-existent. Serverless computing is quickly becoming the next big wave in cloud computing after containers. However, as far as we know the academic community does not have a focal point to understand the implications of serverless computing and influence its direction. We think that the impact of serverless computing will be similar to that of cloud computing as demonstrated by AWS. This presents both an opportunity and a challenge for the research and development community.

We are pleased to present the proceedings of WoSC 2017, which comprises a collection of excellent technical papers, a keynote and a discussion panel. Each submission was assigned to at least three members for review. Based on the resulting scores, the program chairs made the final decision. First, we would like to thank all the authors for their hard work in preparing submissions to the conference. We deeply appreciate the effort and contributions of the technical program committee members and the external reviewers who have worked very hard to review the papers in a short period of time. We would also like to thank the organizers of ICDCS 2017 for their effort and continuous help with the organization of WoSC 2017.
We welcome you to the WoSC 2017 in Atlanta, USA and hope that you will find the program interesting and stimulating.

You can find more about the workshop at http://www.serverlesscomputing.org/wosc17

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