African Conference on Software Engineering (ACSE) 2020

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MESSAGE FROM THE CHAIRS

Welcome to the 2020 edition of the African Conference on Software Engineering (ACSE) that is held virtually due to the COVID-19 travel restrictions and social distancing measures. The ACSE 2020 is the third edition of what previously was known as Symposium on Software Engineering in Africa (SEiA). The ACSE is a forum for researchers, innovators, and leading professionals to discuss the state and future of software engineering in Africa. The ACSE was organized with the purpose of increasing participation of researchers from Africa in the international Software Engineering community. The event provides a platform for exchanging ideas on the role of software engineering in socio-economic development of the continent, the future directions of software engineering research and education in Africa, creating networks with the global software engineering community, and sharing exciting results with the global community.

The ACSE 2020 covers topics in software engineering research in general, and especially welcomes research addressing social-economic challenges in the areas of importance for the African continent including financial services, agriculture, sustainable cities, healthcare, education, transportation, environment and, climate change, smart grids, conflict and crisis management, process improvement, software engineering education and, training in Africa, building research networks, software innovations and startups, growing the IT-industry, setting up IT-outsourcing, data science, Internet of Things and cloud computing in Africa, open source software and software ecosystems in Africa, and national policies for growing the IT industry

We received fourteen (26) submissions. Each submission went through a thorough review process that involved at least 3 reviewers. We accepted eleven (11), 10 full papers and 1 short paper, resulting in a 42% acceptance rate of the submissions received. The conference will include presentations of accepted papers, keynote speakers and specific discussions on topics around growing Software Engineering research and education on the African continent. We are grateful to everyone who submitted to the ACSE 2020, the Program Committee members, the organisers and participants. We look forward to a successful series of ACSE events.

Keynote Address

The keynote was given by Dr. Ernest Mwebaze from Google AI, Accra, Ghana and Sunbird AI on the topic "Software Engineering in a Machine learning world: perspectives from industry".

Abstract: Industry is mainly driven by profit. Software in industry is developed with a focus on an individual and their specific wants. To make money software has to be developed with appropriate UIs and functionality that allows an individual to do something they would ordinarily not do if they had no access to the software. The motivations for industry thus tend to be different from those in academia. Machine learning enables even greater power in the hands of the individual, and presents new paradigms in how the software is developed and evaluated, aspects of how a software project is planned and executed, how the project is launched and maintained in production and specific issues around bias, fairness and transparency. In this talk I will touch on each of these issues with a perspective from a large non-profit organisation and a large multinational for profit organisation.

Bio: Ernest Mwebaze obtained his doctorate in machine learning from the University of Groningen. He has over 10 years experience in academia where he was part of the faculty at the School of Computing and Informatics Technology of Makerere University in Uganda. At Makerere University he co-led the Makerere Artificial Intelligence research lab and headed several research projects. He has worked with the UN at the Pulse Lab Kampala and with Google AI, in Accra, Ghana. His current portfolio includes being a research director at Sunbird AI, an NGO focused on productization of AI for social good.

Organizing Committee

We like to thank the local organizing committee for their help an support.

- Waweru Mwangi, Local Chair, Jomo Kenyatta University of Agriculture and Technology, Kenya
- Rimiru Richard, Local Co-Chair, Jomo Kenyatta University of Agriculture and Technology, Kenya
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- Stephen Kimani, Local Co-Chair, Jomo Kenyatta University of Agriculture and Technology, Kenya
- Micheal Tuape, Fundraising and Publicity Chair, University of Botswana

Program Committee

Furthermore, this conference would not have been possible without the members of the program committee.

- Loek Cleophas, TU Eindhoven, The Netherlands; and Stellenbosch University, South Africa
- Yirsaw Ayalew, University of Botswana, Botswana
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- Leonard Peter Binamungu, College of ICT, University of Dar es Salaam, Tanzania
- Michel Chaudron, Chalmers and University of Gothenburg, Sweden
- Engineer Bainomugisha, Makerere University, Uganda

We also like to that the sub-reviewers.

- Sangeeth Kochanthara, TU Eindhoven, The Netherlands

Sponsors

Last but not least we want to thank the sponsors of this conference, namely:

- Makerere University, Kampala
- Chalmers University of Technology, Sweden
- University of Gothenburg, Sweden
- Jomo Kenyatta University of Agriculture and Technology, Kenya
- The Bright project of the Swedish International Development Cooperation Agency, Sida
- The Embassy of Sweden in Kampala

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September 14, 2020