Eclipse SAM IoT 2020
Security | AI | Modelling

1st Eclipse Research International Conference on Security, Artificial Intelligence and Modelling for the next generation Internet of Things

PROCEEDINGS

17-18 September, 2020

EDITORS

Enrico Ferrera
Philippe Krief

CO-ORGANIZED BY

Eclipse Foundation, Germany
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SAM IoT 2020

Proceedings of the
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Virtual Conference | September 17-18, 2020

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FOREWARD

The adoption of the Internet of Things (IoT) is drastically increasing in every application domain, contributing to the rapid digitalization of contemporary society. Current IoT scenarios are characterized by constantly increasing demands in terms of non-functional requirements, from low latency to high reliability, dependability, and dynamic resources allocation. This paradigm shift, also considered as the next evolutionary phase of IoT, is expected to create numerous opportunities for the technology market supporting applications in multiple areas, i.e. Smart Factories, Smart Cities, Critical Infrastructures, Cooperative Service Robotics, etc. To cope with these demanding requirements, a multitude of novel technologies - such as Edge Computing, Artificial Intelligence and Analytics, Digital Twin, as well as Security, Privacy and Trust schemes – are being investigated in order to be adopted in current IoT architectures standards, identifying efficient integration schemes with proper design patterns. Hence, designing and managing the next generation of IoT-based systems is set to become even more complex.

This book contains the proceedings of the 1st Eclipse International Conference on Security, Artificial Intelligence and Modeling for the next-generation Internet of Things (SAM IoT 2020).
SAM IoT 2020 is the first scientific conference organized by Eclipse Foundation with the aim of promoting the building of a richer public domain culture within the research community, with special attention to applied research. SAM IoT 2020 has organized a call for papers to collect the latest research results in Europe and all around the world, with a specific focus on the open issues related to Security, Artificial Intelligence and Modelling in the next-generation of Internet of things applications. SAM IoT is also supported by the EU-funded H2020 BRAIN-IoT project. As a project focused on the definition and implementation of novel architectures and methodologies for supporting the developers and operators of modern IoT applications to deal with the increasing complexity and dynamicity of IoT systems in Smart city, Industry and Robotics domains, BRAIN-IoT is among the pioneer projects on the Next-Generation IoT paradigm. For this reason, LINKS Foundation, as coordinator of the BRAIN-IoT project, participates in the organization of SAM IoT 2020 to promote the discussion around the Next-Generation IoT research topics, bringing together participants from research and industry.

Submissions, with authors from 16 different countries spread across Europe, Asia and the United States have been received. To evaluate each submission, a blind paper review was performed by the Technical Program Committee, whose members are highly qualified researchers in SAM IoT topic areas. Each paper was reviewed by at least three reviewers. Based on those reviews, papers that adequately balanced quality, originality and relevance to the conference themes were selected. Based on the classifications provided, 11 papers have been selected.
The conference also featured 2 keynote lectures delivered by experts, namely Henrik Plate (SAP Security Research) and Paul-Emmanuel Brun (AIRBUS CyberSecurity). These talks contributed to increasing the overall quality of the conference and to provide a deeper understanding of the conference fields of interest.
The proceedings of SAM IoT 2020 will be submitted for publication to CEUR Workshop Proceedings (CEUR-WS.org), which is a free open-access publication service at Sun SITE Central Europe operated under the umbrella of RWTH Aachen University. CEUR-WS.org is a recognized ISSN publication series, ISSN 1613-0073.
We believe the proceedings published demonstrate new and innovative solutions, and highlight challenging technical problems in each of the SAM IoT fields.

To recognize the best submission, an award based on the paper review scores, as assessed by the Technical Program Committee was conferred at the closing session of the conference.
As a final point, we would like to express our thanks, first of all, to the authors of the technical papers, whose work and dedication made it possible to put together a program that we believe is very exciting and of high technical quality. Next, we would like to thank all the members of the program committee, who helped us with their expertise and time.

We would also like to thank the invited speakers for their invaluable contributions and for sharing their vision in their talks. Finally, we acknowledge the professional support of the SAM IoT 2020 team for all organizational processes, especially given the need to introduce online streaming, breakouts management, direct messaging facilitation and other web-based activities in order to make it possible for SAM IoT 2020 authors to present their work and share ideas with colleagues in spite of the logistic difficulties caused by the current pandemic situation.

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CONTENTS