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# Service-Oriented Computing

16th Symposium and Summer School, SummerSOC 2022  
Hersonissos, Crete, Greece, July 3–9, 2022  
Revised Selected Papers

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# Preface

The 16th Symposium and Summer School on Service-Oriented Computing (SummerSOC 2022) continued a successful series of summer schools that started in 2007. SummerSOC regularly attracts world-class experts in service-oriented computing (SOC) to present state-of-the-art research during a week-long program organized in several thematic tracks: IoT, formal methods for SOC, cloud computing, data science, advanced manufacturing, software architecture, digital humanities, quantum computing, and emerging topics. The advanced summer school is regularly attended by top researchers from academia and industry as well as by PhD and graduate students.

During the SummerSOC symposium original research contributions in the areas mentioned above were presented. All accepted contributions were submitted in advance and were peer-reviewed in a single-blind review process. All papers received three reviews. Based on the reviews the program chairs accepted or rejected contributions. Out of 25 submitted contributions, only nine were accepted with an acceptance rate of less than 40%. The contributions were extensively discussed after their presentation during the paper session. In addition to the reviewer's comments, the feedback from these discussions was folded into the final version published in this special issue.

The volume is structured into three parts focusing on (i) advanced application architecture, (ii) data science and applications, and (iii) quantum computing. The first article in the section on advanced application architecture introduces a new plugin architecture combining microservices and micro frontends, which is followed by an article on enhancing IoT platforms for autonomous device discovery and selection; this second contribution received the SummerSOC Young Researcher Award sponsored by ICSOC. The next article provides answers to the question of serverless or serverful architectures based on a pattern-based approach for exploring hosting alternatives. The final article of the first part focuses on approaching immediate feedback for security relevant code in development environments. The section on data science and applications contains four contributions which propose a detection approach and its evaluation on unsupervised labor intelligence systems, provide an empirical investigation on MicroStream vs. JPA, enlighten the role of the data provider in the enterprise data marketplace supporting the process from data asset to data product, and offer data-aware service placement in the Cloud-IoT continuum. The final section on quantum computing provides an article focusing on optimizing the prioritization of compiled quantum circuits based on machine learning approaches.

August 2022

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