2023 IEEE/ACM 5th **International Workshop on Software Engineering Research** and Practices for the IoT (**SERP4IoT 2023**)

Melbourne, Australia 20 May 2023



IEEE Catalog Number: CFP23T80-POD ISBN:

979-8-3503-0189-2

Copyright © 2023 by the Institute of Electrical and Electronics Engineers, Inc. All Rights Reserved

Copyright and Reprint Permissions: Abstracting is permitted with credit to the source. Libraries are permitted to photocopy beyond the limit of U.S. copyright law for private use of patrons those articles in this volume that carry a code at the bottom of the first page, provided the per-copy fee indicated in the code is paid through Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923.

For other copying, reprint or republication permission, write to IEEE Copyrights Manager, IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854. All rights reserved.

*** This is a print representation of what appears in the IEEE Digital Library. Some format issues inherent in the e-media version may also appear in this print version.

 IEEE Catalog Number:
 CFP23T80-POD

 ISBN (Print-On-Demand):
 979-8-3503-0189-2

 ISBN (Online):
 979-8-3503-0188-5

Additional Copies of This Publication Are Available From:

Curran Associates, Inc 57 Morehouse Lane Red Hook, NY 12571 USA Phone: (845) 758-0400

Fax: (845) 758-2633

E-mail: curran@proceedings.com Web: www.proceedings.com



2023 IEEE/ACM 5th International Workshop on Software Engineering Research and Practices for the IoT (SERP4IoT) SERP4IoT 2023

Table of Contents

Message from the Chairsvii
2023 IEEE/ACM 5th International Workshop on Software Engineering Research and Practices for the IoT (SERP4IoT)
Building IoT Systems Modeling: A Object-oriented Metamodeling Approach
Building an Interface for Controlling IoT Devices9 Steven Reiss (Brown University)
An experiment to build an open source application for the Internet of Things as part of a software engineering course
Motivating and Demystifying IoT Learning with Hackathons in a Maker Space, Low-code Development and Rapid Prototyping
Event Driven Architecture : An Exploratory Study on The Gap between Academia and Industry 25 Nader Trabelsi (École de Technologie Supérieure (ETS)), Cristiano Politowski (École de Technologie Supérieure (ETS)), and Ghizlane ElBoussaidi (École de Technologie Supérieure (ETS))
Incorporating Failure Knowledge into Design Decisions for IoT Systems: A Controlled Experiment on Novices
ReqMIoT: An Integrated Requirements Modelling Environment for IoT Systems

ra4xstate: An Efficient Quantitative Robustness Analysis Approach for Statecharts	:6
Open Innovation in Cities with IoT hackathons	4
Author Index	55