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Weizhi Meng · Sokratis K. Katsikas (Eds.)

Emerging Information Security and Applications

Second International Symposium, EISA 2021
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Revised Selected Papers

Editors

Weizhi Meng 
Technical University of Denmark
Kongens Lyngby, Denmark

Sokratis K. Katsikas 
Norwegian University of Science
and Technology
Gjøvik, Norway

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Preface

This book contains the papers that were selected for presentation and publication at the Second International Symposium on Emerging Information Security and Applications (EISA 2021), which was organized by the Cyber Security Section of the Technical University of Denmark, Denmark, held during November 12–13, 2021. Due to COVID-19, EISA 2021 was held online.

With the recent evolution of adversarial techniques, intrusions that may threaten the security of various assets, including information and applications, have become more complex. In addition, coordinated intrusions like worm outbreaks will continue to be a major threat to information, system, and network security in the near future. The popularity of the Internet generates a large volume of different types of sensitive information. Therefore, there is a need for emerging techniques, theories, and applications to protect information and practical security. EISA aims to provide a platform for researchers and practitioners across the world to exchange their ideas. It seeks original submissions that discuss practical or theoretical solutions to enhance information and application security in practice.

This year's Program Committee (PC) consisted of 51 members with diverse backgrounds and broad research interests. A total of 36 papers were submitted to the conference. Papers were selected based on their originality, significance, relevance, and clarity of presentation as assessed by the reviewers. Most papers were reviewed by three or more PC members. Finally, 10 full papers were selected for presentation at the conference, resulting in an acceptance rate of 27.8%. Additionally, one short paper was accepted.

EISA 2021 had seven outstanding keynote talks: “Software Vulnerability Detection: From Fuzzing to Deep Learning” presented by Yang Xiang from Swinburne University of Technology, Australia; “Highly Efficient Network Security Analysis Based on Sketches” presented by Zheng Yan from Xidian University, China, and Aalto University, Finland; “File Carving - Challenges and Research Directions” presented by Xiaodong Lin from the University of Guelph, Canada; “Passive Message Fingerprint Attacks on Challenge-based Collaborate Intrusion Detection Networks” presented by Wenjuan Li from the Hong Kong Polytechnic University, China; “On the Evolution of OCPP-based Charging Infrastructures: Threats and Countermeasures” presented by Cristina Alcaraz from the University of Malaga, Spain; “The Dumbo Protocol Family: Making Asynchronous Consensus Real” presented by Qiang Tang from the University of Sydney, Australia; and “Blockchain and Machine Learning Aided Security Framework for Internet of Things” presented by Chunhua Su from the University of Aizu, Japan. Our deepest gratitude for their excellent presentations.

For the success of EISA 2021, we would like to first thank the authors of all submissions and all the PC members for their great efforts in selecting the papers. We also thank all the external reviewers for assisting the reviewing process. For the conference organization, we would like to thank the general chairs - Liqun Chen and Jiageng Chen, the publicity chairs - Stefanos Gritzalis and Chunhua Su, and the publication chair –

Wenjuan Li. Finally, we thank everyone else, speakers and session chairs, for their contribution to the program of EISA 2021.

November 2021

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