2021 International Conference on Software Security and Assurance (ICSSA 2021)

Altoona, Pennsylvania, USA 10-12 November 2021



IEEE Catalog Number: CFP21D72-POD ISBN: 978-1-6654-7892-2

Copyright © 2021 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:
 CFP21D72-POD

 ISBN (Print-On-Demand):
 978-1-6654-7892-2

 ISBN (Online):
 978-1-6654-7891-5

Additional Copies of This Publication Are Available From:

Curran Associates, Inc 57 Morehouse Lane Red Hook, NY 12571 USA Phone: (845) 758-040

Phone: (845) 758-0400 Fax: (845) 758-2633

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



2021 International Conference on Software Security and Assurance (ICSSA)

ICSSA 2021

Table of Contents

Message from the General Chairs	. vii
Conference Organizers	viii
Keynotes	ix
Sponsors	xi
Cybersecurity and Applications	
Security Education and Training for Non-Technical School Students using Games	1
Delete My Account: Impact of Data Deletion on Machine Learning Classifiers Tobias Dam (St. Pölten UAS, Austria), Maximilian Henzl (St. Pölten UAS, Austria), and Lukas Daniel Klausner (St. Pölten UAS, Austria)	7
Evaluation of Password Replacement Schemes	21
Lightning Talk	
Toward a Cyber Range for Industrial Control Systems Taehyeong Kim (Cheongju University, South Korea), Jongchan Seo (Cheongju University, South Korea), Hae Young Lee (Cheongju University, South Korea), Su Man Nam (DUDU IT Co., Ltd., South Korea), and Young Sun Park (DUDU IT Co., Ltd., South Korea)	29
Enigma Networkz - SIEM and Security Analytics for Small to Midsized Businesses	30
Secure Software Design and Implementation	
A Pattern-Based Security Solution for Software Systems with Architectural Weaknesses	31

Data Statistic, Visualization, and Notifications of Networking Traffic Data using AWS IoT Cloud
Quoc Trung Khung (Rochester Institute of Technology, USA) and Tae Oh (Rochester Institute of Technology, USA)
Reducing Software Vulnerabilities using Machine Learning Static Application Security
Testing
Secure Software Design and Implementation
Survey: Machine Learning Algorithm Efficacy Static Software Analysis
Anomaly Detection System for Smart Home using Machine Learning
The Future for a Secure Internet of Things
Lightning Talk
Automated Approaches in Software Security
Author Index 65