

2025 IEEE Conference on Dependable, Autonomic and Secure Computing (DASC 2025)

**Hakodate, Japan
21-24 October 2025**

IEEE Catalog Number:
ISBN:

CFP25RMD-POD
979-8-3315-7046-0



Copyright © 2025, IEEE

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:	CFP25RMD-POD
ISBN (Print-On-Demand):	979-8-3315-7046-0
ISBN (Online):	979-8-3315-7045-3
ISSN:	2837-0724

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

TABLE OF CONTENTS

Efficient Digital Signature Security Enhancement for Remote Keyless Entry System	1
<i>Jinyao Xu, Yintong Luo, Ian G. Harris</i>	
Multivariate Analysis of Urban Public Transport Route Preference with Regression: A Hybrid Data-Driven Approach	9
<i>Marielet Guillermo, Kate Francisco, Jonna Baquillas, Arvin Fernando</i>	
What You See Is Not What You Get: Introducing the Trusted Camera Framework to Combat Fake News	15
<i>Pierre-Louis Aublin</i>	
PURPLE CAKE: Dynamic Control of the Common Applications Kept Enhanced Scheduler	23
<i>Duncan E. Cameron, Alvin C. Valera, Winston K.G. Seah</i>	
Graph based threat detection system for a microsegmentation Zero Trust Architecture	31
<i>Claudio Zanasi, Isabella Marasco, Michele Colajanni</i>	
A Decentralized Architecture for Industrial Data Interoperability Using Blockchain and IPFS	40
<i>Jules Martial Yin-Belta Mbara, Fehmi Jaafar, Pierre Martin Tardif</i>	
Prior-Aware Ensemble Exponential Mechanisms: A Heuristic Approach to Differential Privacy	50
<i>Yevhen Zolotavkin, Prajnamaya Dass, Stefan Köpsell</i>	
A Metropolis-Hastings Sampling Approach to Improve Monte Carlo Localization in ROS-Based Robotics	59
<i>Gustavo Rocha Villela, Claudio Miceli de Farias, Gustavo Da Silva Viana</i>	
FireNarrator: Multimodal LLM-Based Fire Incident Reporting with Decision Logic	65
<i>Palash Yuvraj Ingle, Young Gab-Kim</i>	
Analyzing the Behavior of LLM Under Concurrency and Token-Based DoS Attacks	72
<i>Md Abdul Barek, A. B. M Kamrul Islam Riad, Md Bajlur Rashid, Guillermo Francia, Hossain Shahriar Sheikh Iqbal Ahamed</i>	
A Thinning-based Parametric Bootstrap Approach for Software Reliability Assessment	82
<i>Jingchi Wu, Tadashi Dohi, Junjun Zheng, Hiroyuki Okamura</i>	
Enhancing Nonparametric Software Reliability Prediction via Multi-Kernel Local Linear Regression*	90
<i>Jiacheng Bai, Tadashi Dohi, Junjun Zheng, Hiroyuki Okamura</i>	
FedCIM: Handling Data Heterogeneity in Federated Learning to Improve Fairness and Robustness	98
<i>Abdul Rehman, Darine Ameyed, Fehmi Jaafar</i>	
Reducing Failover Latency in Cisco ASA Site-to-Site VPNs Through IPsec Parameter Tuning	108
<i>Hamed Rezaeianfardouei, Mark Townley, Mohammad Saedi</i>	
A Modular, Resource-Efficient IDS Framework for Automotive Cybersecurity	115
<i>Israr Khaliq, Yuzo Taenaka, Youki Kadobayashi</i>	
Integrating CCNx into the APT Package Manager: Design and Preliminary Evaluation	121
<i>Junichi Funasaka</i>	

GPU Accelerated Interpretable Generalization for Scalable Network Intrusion Detection and Forensics	127
<i>Shu-Ting Huang, Wen-Cheng Chung, Hao-Ting Pai</i>	
Multi-Granular Discretization for Interpretable Generalization in Precise Cyberattack Identification	131
<i>Wen-Cheng Chung, Shu-Ting Huang, Hao-Ting Pai</i>	
Secure Messaging Framework: Boundless Encrypted Communication	135
<i>Vanchhit Khare, Ankush Rastogi</i>	
BFTaaS: Byzantine Fault Tolerance as a Service through NIC-Level Aggregation	141
<i>Rui Wang, Arne Vogel, Pierre-Louis Aublin</i>	
Towards GPU Passthrough in Intel TDX: Design Challenges and Early Baselines	144
<i>Yoshi Sato, Hidetoshi Uranami, Akihiro Saiki, Keiji Kimura</i>	
Content-based Data Placement Mechanism for ORAM	147
<i>Kazuaki Kawabata, Naohiro Hayashibara</i>	
Wasm Tracer: Improving Observability using eBPF for Wasm Applications	149
<i>Anri Nakamura, Naohiro Hayashibara</i>	
Modeling and Evaluating the Impact of Extreme Opinions on Opinion Polarization in Social Groups	151
<i>Yishu Liu, Kazuki Nakajima, Masaki Aida</i>	
Cross-Regional Validation of an Early Detection Method for Excessive Online User Dynamics Using Frequency Analysis on Sina Weibo Data	157
<i>Fangyuan Xiu, Kazuki Nakajima, Masaki Aida</i>	
A System for Visualizing Social Media Watch History to Mitigate Echo Chambers	163
<i>Naoki Hirakura, Keiji Ota</i>	
Early Results Using Sequential C Programs to Describe and Verify Distributed Algorithms	168
<i>Aoi Ono, Tatsuhiko Tsuchiya</i>	
Integrating Low-Code Data Flow programming and mruby for Efficient IoT Development	174
<i>Kazuaki Tanaka, Sota Ogura, Ko-Ichiro Sugiyama, Krishnamoorthy Ranganathan</i>	