2026 12th International Symposium on System Security, Safety, and Reliability (ISSSR 2026)

Xiangyang, China
16-17 May 2026

IEEE Catalog Number: CFP26J16-POD
ISBN: 979-8-3315-6425-4

IEEE
Advancing Technology for Humanity

Copyright © 2026, 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:	CFP26J16-POD
ISBN (Print-On-Demand):	979-8-3315-6425-4
ISBN (Online):	979-8-3315-6424-7
ISSN:	2835-2831

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

A Lightweight Fused Malware Obfuscation Framework to Evade Static and Dynamic Analysis 1
Nikhill Vombatkere, Pranav Dikshith

Subspace Decomposition via Hankel Matrix Analysis for State Monitoring and Defect Identification 11
Beilin Xu, Bin Wang, Haodi Ji

Mission Risk Control for Two-Phase Deterioration Considering Incomplete Transition Information 20
Fanping Wei, Ning Wang

Registration Landscape of Look-Alike Domains of Large European Corporations: An Empirical Analysis Based on the STOXX Europe 600 27
Thomas Fritzler, Michael Massoth, Alexander Wiesmaier

Research on Network Intrusion Detection Method Based on Topological Data Analysis 39
Xiatao Chen, Qilin Zhang, Yongbiao Zhao

VIB4Vul: An Adaptive Denoising Framework for Smart Contract Vulnerability Detection Based on Variational Information Bottleneck 48
Zibin Zheng, Ruize Ye, Lei Xiao, Xiyue Zhou, Yijie Cai

Artificial Cybercrime: an Analysis of How Cybercriminals Are Exploiting Modern Generative Ai Models to Create and Carry Out Cybercrime 57
Peyton Bubert, Chih-Wei Hsu, W. Eric Wong, Zizhao Chen

Design and Implementation of an Open-Source Security Framework for Cloud Infrastructure 69
Wanru Shao

Formal Verification of Quantum Arithmetic Circuits in Maude 77
Naoto Sato, Tsubasa Takagi

ADTest: Leveraging Large Language Models and Scenario Prediction for Efficient and Rational Adversarial Testing of Autonomous Driving 87
Yukuan Yang, Zepeng Wu, Lina Lai, Qian Dong, Lingzhong Meng

A Survey of Intelligent Testing Technologies for Aerospace Applications 97
Tianzhe Qi, Yiwen Wang

The Impact of Fault Interference on Prediction-Based Fault Localization in Multi-Bug Programs 108
Tian Pan, Yihao Li, Pan Liu, Wenqian Shan, Haiyang Wang

When Prompts Fail to Differentiate: Understanding Discriminative Power in LLM Agent Evaluation 118
Zizhao Chen, W. Eric Wong, Chih-Wei Hsu, George Dai

Research on End-to-End Bearing Fault Diagnosis Based on Wavelet Packet Transform and Multi-Scale Convolutional Neural Network 127
Shuaixing Wang, Yushan Dai

Fault Mode Analysis and Fault-Tolerant Mechanism Research for Automatic Heterogeneous Database Synchronization in Academic Libraries 135
Yijuan Chen, Wenhui Su

Time Series Pattern Segmentation via Soft Constraint Arc Segmentation for Enhanced System Security and Reliability 143
Yang Chen, Zhijun Cheng, Chi Jin, Yanlin Wang, Zichen Wang

A Grayscale-Density-Image-Based Method for Wind Turbine Data Cleaning 151
Xiaohang Jin, Yongjie Liu, Guopeng Cai, Hanlin Guan, Jie Cheng

Fatigue Monitoring and Prediction Based on Gamma Progressive Index (GPI) Learning 160
Zhihong Zeng, Dong-Meau Chang, Tse-Chuan Hsu

A Cooperative Self-Updating Lifetime Prediction Method for Coating-Substrate Systems with Dual-Phase Degradation 171
Yi Chen, Ziguang Ji

A Predictive Maintenance Framework for Multi-Stage Degradation Systems Under Defect Alarm 178
Jiantai Wang, Yu Zhao, Ning Wang

Remaining Useful Life Prediction Method for Electric Multiple Unit Bearings Considering Physical Information and Uncertainty 185
Yizhuo Zhao, Fanping Wei, Jiaxuan Zhan

Cascaded Gaussian Process Residual Correction for Remaining Useful Life Prediction of Lithium-Ion Batteries 192
Xin Zhou, Jiantai Wang, Haodi Ji, Yao Wu

A Physics-Data Hybrid Framework for Corrosion RUL Prediction Under Multi-Source Environments and Sparse Observations 201
Bin Wang, Yu Zhao, Yao Wu, Haodi Ji

A Joint Mission Risk Control Model Considering Health-State Evolution and Stage-Specific Rewards 209
Zijian Kang, Yu Zhao, Ziguang Ji

Reliability Assessment and Optimal Maintenance Decision-Making for Multi-State Competing Failure Systems with Hidden Failures 215
Shihan Zhou, Xiaobing Ma, Ning Wang

Joint Optimization of Production Rate and Spare Part Ordering with Maintenance Decisions for a Deteriorating System 224
Binshi Wang, Fanping Wei, Xiaobing Ma

Joint Condition-Based Maintenance and Production Control Under Unknown Production-Deterioration Relationship 232
Kairui Zeng, Wei Dai, Tianyuan Zhang

Dynamic Maintenance Optimization for Electric Multiple Units Under Extreme Environments: A Multi-State Competing Risk Approach 242
Qinglong Zhu, Runyu Zhang, Huasheng Wang, Xiaobing Ma

An MDD-Based Reliability Assessment for Performance-Sharing k-out-of-n: G Systems 252
Tianyuan Zhang, Xin Zhou, Haodi Ji, Yao Wu

Research on the Suitability and Reliability Evaluation Framework for COTS Devices in Typical Aviation and LEO Environments 261
Shukai Guan, Xi Zhan, Yang Yang, Xiangchen Meng, Wei Gong

CSFE-RTDETR-COT: Steel Rail Crack Detection Based on Multi-Scale Feature Enhancement and Contextual Perception 270
Xintong Liang

Improving Multibeam and Single-Beam Bathymetric Accuracy in Complex Inland Waterways 280
Feng Kai, Liu Yang

Inland Waterway Terrain Modeling with Multi-Source Data and Shoreline Feature Constraints 291
Feng Kai, Liu Yang

Which Metric Matters? Similarity Evaluation for Wavelet-Domain Camera Fingerprints 300
Xinle Tian, Lawrence Ma, Lin Zou, Hongji Yang

A Study on Deep Learning Models for Wheat Stripe Rust Based on Multi-Source Remote Sensing Data Fusion 308
Zelin Wang

AGMN: A Data-Driven Adaptive Gated Multimodal Model to Assist in the Analysis of Lung Cancer Subtype Classification 317
Zhenyuan Xu, Xingchen Yao, Yuan Zhu, Rujin Zhao

Data-Driven Modeling of EEG Signals for Cognitive Performance Decoding 327
Wei Quan, Yuan Zhu, Xingchen Yao, Chiyuan Ma

A Threshold-Optimized Stacking Ensemble Framework for Lung Cancer Metastasis Prediction on Imbalanced Clinical Data 336
Zhenyuan Xu, Rujin Zhao, Zhi Yang, Qinyi Li

Mitigating Thin-Cloud Interference in Remote Sensing via Unsupervised Transformer Networks 345
Xiaozhu Xie, Ouyang Chao, Zhangcong Tan, Xiaofeng Du, Wang Man, Qin Nie

A Deep Temporal Framework for AI-Assisted Singing Vocal Coaching 358
Keyu Jin, Mothishram Jayaraman, Hongji Yang, Chong Zeng, Tian Liu

Intelligent Analysis of Multi-Dimensional Indicators for Enterprise Public Opinion Crises Based on Emotional Modeling 368
Mengyu Liu, Yuqing Zheng, Jing Gao

An Entropy Weight and TOPSIS Based Assessment of Digital Economy Development and its Effects on Economic Growth and Employment Structure Optimization: A Case Study 375
Yueyang Qiao

Assessing the Impact of Corporate Social Responsibility on High-Quality Development in the Age of Digitalization 383
Jinheng Lin, Shaoling Zhang, Dan Zheng

The Impact of Artificial Intelligence on Firm Performance: Evidence from Chinese Manufacturing Firms 392
Ying Yuan, Fanqi Liu, Hua Zhang, Aining Yu

An Emergency Response Approach Based on a Contingency-Plan-Fine-Tuned and Emergency-Knowledge-Enhanced Large Language Model 402
Mingwei Tang, Yunxuan Xie, Xianggui Tan

An Intuition-Inspired Three-Space Framework for Creative Computing: Semantic Expansion Through Structured Intuition 412
Yanju Yao, Yun Zhang, Xiaoting Chen, Huiyu Zhou, Hongji Yang