2022 7th International Conference on Cyber Security and **Information Engineering** (ICCSIE 2022)

Brisbane, Australia 23 – 25 September 2022



IEEE Catalog Number: CFP22CQ8-POD **ISBN:**

978-1-6654-5575-6

Copyright © 2022 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:	CFP22CQ8-POD
ISBN (Print-On-Demand):	978-1-6654-5575-6
ISBN (Online):	978-1-6654-5574-9

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



2022 7th International Conference on Cyber Security and Information Engineering (ICCSIE) ICCSIE 2022

Table of Contents

ix
x
xi
ii
ii

ICCSIE 2022

Technology Configuration of Innovation and Entrepreneurship Platform Based on Cloud 1 Computing 1 Lei Liu (Guangdong Polytechnic, China), Yuyang Liu (Guangdong Medical 1 University, China), and Mingying Xie (Guangdong Polytechnic, China)
 Development of WEB-Based Automatic Detection Tool for Web Attack Traceability
A Virtual Network Mapping Method Based on Compound Particle Swarm Optimization
Design and Implementation of TLS Traffic Packet Filtering Technology Based on Netfilter Framework
Research on Ship Speed Optimization Simulation Based on Genetic Algorithm

Application and Research of Knowledge Graph in the Management of Teachers' Profession Archives in Military Academies Qingqing Cao (Department of Force Management, Police Officers Academy of PAP, China)
Smart Contract Applications Within Blockchain Technology: A Systematic Mapping Study
Automotive V2X Communication Security Key Technology and Test Method Research
Design of Power Communication Panoramic Interactive Anti-Accident Exercise System
 A Novel Chaotic Image Encryption Algorithm Based on Pixel and Bit Level Scrambling-Diffusion
 Application of Knowledge Graph Technology in the Field of Power Grid Infrastructure
IoT Platform Based on Digital Twin Modeling and Multi-Source Information Fusion
 Research on Voltage Inductive Heated Defect Detection Technology Based on Temperature Width Intelligent Adjustment
Computing and Explaining Knowledge Relevance in Exploratory Search Environment

 Analysis and Research on SOTIF of Typical L3 Autopilot System
Research on Smart Site of Power Grid Based on Edge Computing Framework
Research on Interface Specification of Distributed Business Interaction and Data Sharing
Research on Situation Element Extraction Model of Internet of Vehicles Based on Optimized Random Forest
 Research on NTRU-Based Anonymous Authentication and Key Negotiation Protocol for VANETs 104 Jiayu Yang (Chengdu University of Information Technology, China), Fei Li (Chengdu University of Information Technology, China), and Zhuoran Zhang (Chengdu University of Information Technology, China)
Research on the Algorithm of Situational Element Extraction of Internet of Vehicles Security Based on Optimized-FOA-PNN
Using Regression Algorithms to Forecast Merchandise Sales in the Presence of Independent Variables
Gas Accident Safety Entity Extraction Based on Data Enhancement and Transfer Learning

WEB Attack Source Tracing Technology Based on Genetic Algorithm	. 123
Ying Ling (Electric Power Research Institute of Guangxi Power Grid	
Co., Ltd., China), Chunyan Yang (Electric Power Research Institute of	
Guangxi Power Grid Co., Ltd., China), Xin Li (Electric Power Research	
Institute of Guangxi Power Grid Co., Ltd., China), Ming Xie (Guangxi	
Power Grid Co., Ltd., China), and Shaofeng Ming (Electric Power	
Research Institute of Guangxi Power Grid Co., Ltd, China)	
Information Encryption Security System Based on Chaos Algorithm	128
Xiya Liu (Tianjin Sino-German University of Applied Sciences, China)	
Author Index	. 133