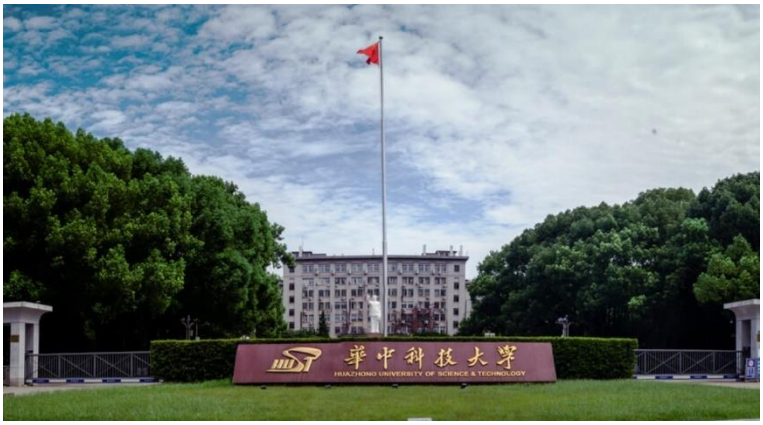
National CyberSecurity Center International Congress

The 21st IEEE International Symposium on Parallel and Distributed Processing with Applications (ISPA 2023)
The 13th IEEE International Conference on Big Data and Cloud Computing (BDCloud 2023)
The 16th IEEE International Conference on Social Computing and Networking (SocialCom 2023)
The 13th IEEE International Conference on Sustainable Computing and Communications (SustainCom 2023)
The 16th IEEE International Conference on Security, Privacy, and Anonymity in Computation, Communication, and Storage (SpaCCS 2023)

December 21-24, 2023, Wuhan, Hubei

http://www.ieee-hust-ncc.org/2023/ISPA/
Conference Program and Information Booklet



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Presentation Guidelines

Conference Date
The conference is to be held in December 21-24 2023. The time for conference program is based on CST, China Standard Time.

Language
The presentation language of the IEEE ISPA/BDCloud/SocialCom/SustainCom/SpaCCS-2023 and associated workshops is English.

For Session Chairs
Session Chairs are requested to join the physical room or online zoom at least 10 minutes before their sessions.

For Authors
You are strongly encouraged to join the physical room or online zoom during your presentation and Q&A. Please confirm your attendance with the Session Chair at least 10 minutes before the session.

Timing
Please check the program for the exact time of your session and where your paper falls within the session.

It is recommended that all IEEE ISPA/BDCloud/SocialCom/SustainCom/SpaCCS-2023 presentations use **10-20 minutes presentation time plus 5 minutes question time**. However, the Session Chairs will determine the exact presentation time for each paper, based on the number of presentations in each session. The Session Chairs will ensure that you do not over-run the time allocated.

Proceedings
If you are interested in reading papers during the presentations, here are the proceedings:
https://conferences.computer.org/ispa-bdcloud-socialcom-sustaincom-spaccspub23
The username and password will be sent to all fully registered participants separately.

Help
For any assistance, please contact:
ieee-ispa-2023@googlegroups.com
liushenghao@hust.edu.cn
zhengwj@hust.edu.cn.
chensn@hust.edu.cn

Conference Venue

Besides three physical rooms, the following zoom/room links are for online conference presentation. You can enter any zoom/room that you are interested in via the links:
Keynote (Zoom URL): https://us06web.zoom.us/j/7909028400?pwd=VWRaT1
ID: 790 902 8400 ; Password: 84seCg
地点：2023 年 12 月 21-24 日主会场在武汉华美达光谷大酒店

Presentation
Room 1: (Zoom) **ID: 910 427 1192, Password: M46kiZ** https://us06web.zoom.us/j/9104271192?pwd=YHLUtOmrbLxjbGLYFv6c6YxYLj2MKd.1 Room 2: (Zoom) **ID: 624 749 1697, Password: rR98yY** https://us06web.zoom.us/j/6247491697?pwd=bRNa4XwWYbH1UFYab3LWvh6MRqPlUx.1 Room 3: (Zoom) **ID: 790 902 8400, Password: 84seCg** https://us06web.zoom.us/j/7909028400?pwd=VWRaT1

Welcome Message from the Congress Chair

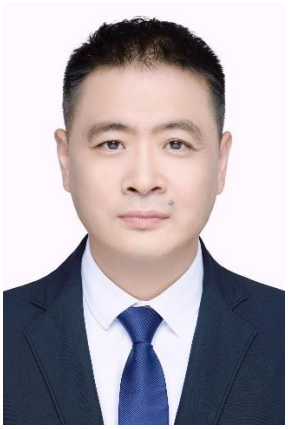
Welcome to the National CyberSecurity Center International Congress 2023 which includes the 21st IEEE International Symposium on Parallel and Distributed Processing with Applications (ISPA 2023), the 13th IEEE International Conference on Big Data and Cloud Computing (BDCloud 2023), the 16th IEEE International Conference on Social Computing and Networking (SocialCom 2023), the 13th IEEE International Conference on Sustainable Computing and Communications (SustainCom 2023), the 16th IEEE International Conference on Security, Privacy, and Anonymity in Computation, Communication, and Storage (SpaCCS 2023).

The National CyberSecurity Center International Congress covers a multitude of application domains such as Parallel and Distributed Processing, big data and cloud computing, social computing and networking, sustainable computing and communications, secure computating, communications, and storage, etc. The Congress will usher in a new age of trusted and computational cyber-physical-social-human interactions, revolutionizing and reshaping the world as we know it.

Here we would like to sincerely thank all organizing committee members, program committee members and reviewers for their hard work and valuable contribution. Without your help, these conferences would not have been possible. We greatly appreciate the sponsorship from IEEE, IEEE Computer Society and IEEE Technical Committee on Scalable Computing (TCSC). We are very grateful to the keynote speakers for their authoritative speeches. We thank all authors and conference participants for using this forum to communicate their excellent work.

The conferences will be held physically and virtually in December 21-24, 2023, Wuhan, Hubei, China

We hope you find the conferences a stimulating and exciting forum.



Laurence T. Yang, Vice President and Dean
Hainan University, China
FCAE, FEIC, MAE, FIEEE, FIET, FAAIA
Chair, IEEE CS Technical Committee on Scalable Computing
Chair, IEEE SMC Technical Committee on Cybermatics
Chair, IEEE SC Hyper-Intelligence Technical Committee
Congress Steering Chair

Minyi Guo, Director of Embedded and Pervasive Computing Center
Shanghai Jiao Tong University, China
Zhiyuan Chair Professor
IEEE Fellow
ACM Distinguished Member
Congress Steering Chair

Congress Keynotes

Keynote 1: Elisa Bertino, Purdue University, USA

The Persistent Problem of Software Insecurity

Keynote 2: Yang Xiang, Swinburne University of Technology, Australia

Enhancing Security in Software

Keynote 3: Xiaofeng Chen, Xidian Univeristy, China

Verifiable Computation on Large Database/Data Streaming

Keynote 4: Philip S. Yu, University of Illinois at Chicago, USA

On Recommendations via Large Multi-modal Models

Keynote 5: Meikang Qiu, Augusta University, USA

AI Enhanced Cyber Security

Keynote 6: Mianxiong Dong, Muroran Institute of Technology, Japan

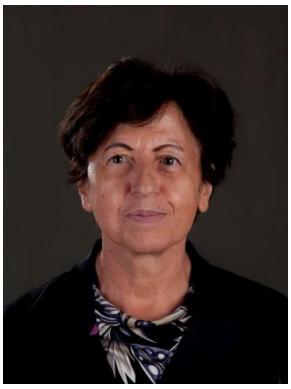
A Perspective Path to User-centric 6G: Customizable and Sustainable Reconfigurable Intelligent Surface System

National CyberSecurity Center International Congress

Keynote 1: The Persistent Problem of Software Insecurity

Elisa Bertino

About the Keynote Speaker



ABSTRACT: Software is increasingly playing a key role in all infrastructure and application domains we may think of. Unfortunately, as we all know, software systems are still often insecure, despite the fact the “problem of software security” had been known to the industry and research communities for decades. In this talk, I'll first present my view on the current state of software security and provide examples from mobile applications, open-source software, and emerging domains. I'll then discuss the role of AI in software security and other factors that today complicate the problem of software security - a notable factor being the software supply chain. We then discuss "what it takes" to convince all parties involved in the software ecosystem to address the problem of software insecurity and outline research directions.

BIO: Elisa Bertino is Samuel Conte professor of Computer Science at Purdue University. She serves as Director of the Purdue Cyberspace Security Lab (Cyber2Slab). Prior to joining Purdue, she was a professor and department head at the Department of Computer Science and Communication of the University of Milan. She has been a visiting researcher at the IBM Research Laboratory in San Jose (now Almaden), at Rutgers University, at Telcordia Technologies. She has also held visiting professor positions at the Singapore National University and the Singapore Management University. Her recent research focuses on security and privacy of cellular networks and IoT systems, and on edge analytics for cybersecurity. Elisa Bertino is a Fellow member of IEEE, ACM, and AAAS. She received the 2002 IEEE Computer Society Technical Achievement Award for “For outstanding contributions to database systems and database security and advanced data management systems”, the 2005 IEEE Computer Society Tsutomu Kanai Award for “Pioneering and innovative research contributions to secure distributed systems”, the 2019-2020 ACM Athena Lecturer Award, and the 2021 IEEE 2021 Innovation in Societal Infrastructure Award. She received a Honorary Doctorate from Aalborg University in 2021 and a Research Doctorate in Computer Science from the University of Salerno in 2023.

National CyberSecurity Center International Congress

Keynote 2: Enhancing Security in Software

Yang Xiang

About the Keynote Speaker

ABSTRACT: Cybersecurity has emerged as one of the foremost priorities on the global research and development agenda today. The urgent need for new and innovative cybersecurity technologies capable of effectively addressing this pressing danger cannot be overstated. Software security is paramount to maintaining the integrity of modern software applications. Given the broad spectrum of real-world applications, different security challenges are evaluated based on the specific use case.

In this presentation, we will dissect a variety of security issues that have arisen in diverse applications, examining both the associated challenges and effective strategies in software security. We will delve into the technique of fuzzing, an efficient and effective automated process vital for software testing. Additionally, we will explore strategies for detecting security vulnerabilities in software. We will also scrutinize security considerations in binary code applications, including those in IoT devices and Windows low-level components.

BIO: Professor Yang Xiang received his PhD in Computer Science from Deakin University, Australia. He is currently a full professor and the Dean of Digital Research, Swinburne University of Technology, Australia. In the past 20 years, he has been working in the broad area of cyber security, which covers software, network, system, and application security. He has published more than 300 research papers in many international conferences and journals in Cybersecurity, such as ACM CCS, IEEE S&P, Usenix Security, NDSS, IEEE TDSC, and IEEE TIFS. He is the Editor-in-Chief of the SpringerBriefs on Cyber Security Systems and Networks. He serves as the Associate Editor of the ACM Computing Surveys. He served as the Associate Editor of IEEE Transactions on Dependable and Secure Computing, IEEE Internet of Things Journal, IEEE Transactions on Computers, and IEEE Transactions on Parallel and Distributed Systems. He is the Coordinator, Asia for IEEE Computer Society Technical Committee on Distributed Processing (TCDP). He is a Fellow of the IEEE.

Keynote 3: Verifiable Computation on Large Database/Data Streaming

Xiaofeng Chen

About the Keynote Speaker

ABSTRACT: The primitives of Verifiable Database (VDB) and Verifiable Data Streaming (VDS) enable a resource-limited client to outsource huge data to an untrusted server while supporting public integrity verification and efficient updates. In this talk, we give the state-of-the-art techniques of VDB/VDS.

BIO: Xiaofeng Chen is a full professor at Xidian Univeristy, China. His research interests include applied cryptography and cloud computing security. He has published more than 300 research papers in refereed international conferences and journals. His work has been cited more than 15 000 times at Google Scholar. He is in the editorial board of the IEEE Transactions on Dependable and Secure Computing, IEEE Transactions on Knowledge and Data Engineering, International Journal of Foundations of Computer Science etc. He has served as the program/general chair or program committee member in more than 30 international conferences. He has been the highly cited scholar of Clarivate for the past five years.

Keynote 4: On Recommendations via Large Multi-modal Models

Philip S. Yu

About the Keynote Speaker

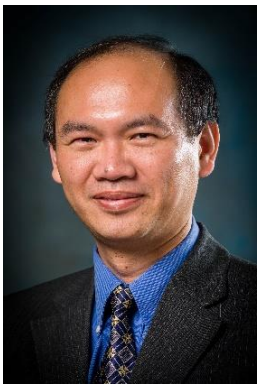
ABSTRACT: As the variety of products and services continues to increase, recommender systems play a critical role in assisting customers by presenting products or services that are likely to be of interest to them. In the era of big data, is an abundance of data available from various sources, encompassing different modalities. In addition to user rating information on products, other relevant data sources can include social networks, knowledge bases, product descriptions and reviews, as well as contextual and temporal information. Furthermore, the rapid development of deep learning, especially in graph neural networks (GNNs) and Large Language Models (LLMs), has significantly advanced the machine learning capabilities, offering new opportunities to improve recommender systems. In this talk, our focus is on utilizing GNNs and LLMs to develop large multi-modal models through broad learning to fuse information from multiple sources of diverse modalities and perform synergistic deep recommendation tasks across these fused sources in a unified manner. We examine the various heterogeneous information sources and explore ways to enhance the effectiveness of recommendation systems by leveraging large multimodal models to harness the power of deep and broad learning.

BIO: Dr. Philip S. Yu is a Distinguished Professor and the Wexler Chair in Information Technology at the Department of Computer Science, University of Illinois at Chicago. He is a Fellow of the ACM and IEEE. Dr. Yu is the recipient of ACM SIGKDD 2016 Innovation Award for his influential research and scientific contributions on mining, fusion and anonymization of big data, the IEEE Computer Society's 2013 Technical Achievement Award for "pioneering and fundamentally innovative contributions to the scalable indexing, querying, searching, mining and anonymization of big data" and the Research Contributions Award from ICDM in 2003 for his pioneering contributions to the field of data mining. Dr. Yu has published more than 1,600 referred conference and journal papers cited more than 182,500 times with an H-index of 191. He has applied for more than 300 patents. Dr. Yu was the Editor-in-Chiefs of ACM TKDD (2011-2017) and IEEE TKDE (2001-2004).

Keynote 5: AI Enhanced Cyber Security

Meikang Qiu

About the Keynote Speaker



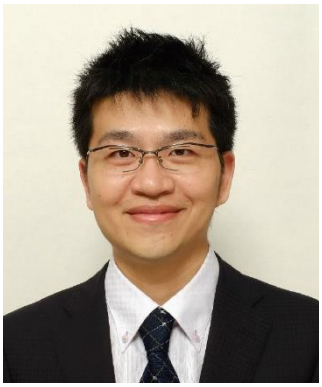
ABSTRACT: This talk will first illustrate how to use AI techniques to enhance cyber security of various systems. There are several ways to apply AI to cyber security areas. This talk will use prediction-based AI technics to enhance the total security of the V2X (Vehicle-to-Everything) communication system. The talk takes serious considerations of latency while implementation the data encryption for V2X communication systems. Furthermore, the talk will discuss deep reinforcement learning to protect the security of V2X system without scarifying safety of the vehicles. Examples and experimental results will be given to show the detailed techniques on applying AI techniques to enhance cyber security of vehicles, with the potential of implementing them to various cyber-physical systems.

BIO: Meikang Qiu received the BE and ME degrees from Shanghai Jiao Tong University and received a Ph.D. degree of Computer Science from University of Texas at Dallas. Currently, He is a full professor and director of AI enhanced Cyber Security Lab of Augusta University, USA. He is an ACM Distinguished Member. He is also the Highly Cited Researcher in 2021 from Web of Science and IEEE Distinguished Visitor in 2021-2023. He is the Chair of IEEE Smart Computing Technical Committee. Till now his Google scholar citation is 22800+ and H-index 102. He is ranked among the top 1000 computer scientists in the world. Meikang has published 20+ books, 600+ peer-reviewed journal and conference papers, including ICML, IJCAI, ACM CCS and 100+ IEEE/ACM Transactions papers. His research interests include Cyber Security, Big Data Analysis, Cloud Computing, Smarting Computing, Intelligent Data, etc. His paper on Tele-health system has won IEEE System Journal 2018 Best Paper Award. He also won ACM Transactions on Design Automation of Electrical Systems (TODAES) 2011 Best Paper Award. He has won another 10+ Conference Best Paper Awards in recent years. He is/was an Associate Editor of 10+ international journals, including IEEE Transactions on Computers, IEEE Transactions on Cloud Computing, IEEE Transactions on Big Data, and IEEE Transactions on SMC. He is the General Chair of the top conference: IEEE international conference on Data Mining (ICDM) 2023.

Keynote 6: A Perspective Path to User-centric 6G: Customizable and Sustainable Reconfigurable Intelligent Surface System

Mianxiong Dong

About the Keynote Speaker



ABSTRACT: As a new paradigm for 6G communications, reconfigurable intelligent surface (RIS) has admirable properties that enable the dynamic control of electromagnetic waves, thereby attracting significant attention from both industry and academia. Simultaneously, user-centric network highlights the personalized allocation of network resources to meet each mobile individual's requirements, which sheds light on future mobile transmission and corresponding service delivery. Due to this characteristic, RIS is expected to play a crucial role in the evolution of user-centric 6G network systems. However, tailoring RIS into these systems to meet user requirements is still an open challenge. Therefore, this talk aims to provide a comprehensive vision of realizing user-centric 6G network with RIS, specifically focusing on how to provide customizable and sustainable communication for a user-centric 6G. Regarding the design and optimization of RIS, several technical perspectives are considered, e.g., single-BS, multi-BS, and user-diversity. Further, a technical study is detailed in the user-centric RIS design and optimization for a virtual reality scenario. Finally, future research challenges and potential solutions are discussed in RIS-enabled 6G communications.

BIO: Mianxiong Dong received B.S., M.S. and Ph.D. in Computer Science and Engineering from The University of Aizu, Japan. He is the Vice President and Professor of Muroran Institute of Technology, Japan. His research interests include Wireless Networks, Cloud Computing, and Cyber-physical Systems. He is the recipient of The 12th IEEE ComSoc Asia-Pacific Young Researcher Award 2017, Funai Research Award 2018, NISTEP Researcher 2018 (one of only 11 people in Japan) in recognition of significant contributions in science and technology, The Young Scientists' Award from MEXT in 2021, SUEMATSU-Yasuharu Award from IEICE in 2021, IEEE TCSC Middle Career Award in 2021. He is Clarivate Analytics 2019, 2021, 2022, 2023 Highly Cited Researcher (Web of Science) and Foreign Fellow of EAJ.

National CyberSecurity Center International Congress

IEEE ISPA/BDCloud/SocialCom/SustainCom/SpaCCS-2023

Presentation Program

Saturday December 23, 2023 (China Standard Time CST, UTC+8)	
08:30-09:30	**Opening Ceremony** **Chaired by** Shenghao Liu, Huazhong University of Science and Technology, China
09:30-09:50	**Coffee Break**
09:50-10:30	**Keynote 1:** The Persistent Problem of Software Insecurity **Elisa Bertino**, Purdue University, USA **Chaired by** Wei Gong, University of Science and Technology of China, China
10:30-11:10	**Keynote 2:** Enhancing Security in Software **Yang Xiang**, Swinburne University of Technology, Australia **Chaired by** Cai Fu, Huazhong University of Science and Technology, China
11:10-11:50	**Keynote 3:** Verifiable Computation on Large Database/Data Streaming **Xiaofeng Chen**, Xidian Univeristy, China **Chaired by** Shuai Wang, Southeast University, China

Sunday December 24, 2023 (China Standard Time CST, UTC+8)	
09:30-10:10	**Keynote 4:** On Recommendations via Large Multi-modal Models **Philip S. Yu**, University of Illinois at Chicago, USA **Chaired by** Shibo He, Zhejiang University, China
10:10-10:50	**Keynote 5:** AI Enhanced Cyber Security **Meikang Qiu**, Augusta University, USA **Chaired by** Deze Zeng, China University of Geosciences, Wuhan, China
10:50-11:10	**Coffee Break**
11:10-11:50	**Keynote 6:** A Perspective Path to User-centric 6G: Customizable and Sustainable Reconfigurable Intelligent Surface System **Mianxiong Dong**, Muroran Institute of Technology, Japan **Chaired by** Haipeng Dai, Nanjing University, China

Friday December 22, 2023 (China Standard Time CST, UTC+8)		
Room	**Room 1**	**Room 2**
13:30-15:10	ISPA-1: Systems and Architectures Track (I)	BDCloud-1: Big data and Cloud Computing (I)
15:10-15:30	**Coffee Break + Poster Session (I)**	
15:30-17:10	ISPA-2: Systems and Architectures Track (II)	BDCloud-2: Big data and Cloud Computing (II)
17:10-18:10	ISPA-3: Systems and Architectures Track (III)	SocialCom-1: Social computing and networking

Saturday December 23, 2023 (China Standard Time CST, UTC+8)		
Room	**Room 1**	**Room 2**
11:50-13:30	**Lunch Break**	
13:30-15:10	ISPA-4: Systems and Architectures Track (IV)	SustainCom-1: Sustainable Computing and Communications
15:10-15:30	**Coffee Break + Poster Session (II)**	
15:30-17:10	ISPA-5: Technologies and Tools Track (I)	SpaCCS-1: Security and Anonymity (I)
17:10-18:10	ISPA-6: Technologies and Tools Track (II)	SpaCCS-2: Security and Anonymity (II)
18:30-20:00	**Banquet**	

Sunday December 24, 2023 (China Standard Time CST, UTC+8)			
Room	**Room 1**	**Room 2**	**Room 3**
11:50-13:30	**Lunch Break**		
13:30-15:10	ISPA-7: Technologies and Tools Track (III)	ISPA-10: Applications Track (II)	SpaCCS-3: Security and Anonymity (III)
15:10-15:30	**Coffee Break**		
15:30-17:10	ISPA-8: Technologies and Tools Track (IV)	ISPA-11: Applications Track (III)	CyberSecurity-1: Data Science and Security
17:10-18:10	ISPA-9: Applications Track (I)	ISPA-12: Data Science and Security	

The ISPA 2023 Physical Presentation Program

ISPA-1: Systems and Architectures Track (I)
Session Chair: Suning Chen, Huazhong University of Science and Technology, China

1. *FC+: Near-optimal Deadlock-free Expander Data Center Networks*
Xiao Zhang; Peirui Cao; Yongxi Lyu; Qizhou Zhang; Shizhen Zhao; Xinbing Wang; Chenghu Zhou

2. *Time Fairness-Based Application Offloading in Mobile Edge Computing with Individual QoS Guarantee*
Mengwei Xie; Lizhen Cui; Jianxiong Liu; Wei Guo; Feng Li

3. *DySched: Relieving Large-Scale Incast for Cloud-Native RDMA Applications*
Jiejian Wu; Zhe Wang; Teng Ma; Linghe Kong; Yutong Liu; Zhuo Song; Jiadi Yu; Yong Yang; Tao Ma; Guihai Chen

4. *Hierarchical Sketch: An Efficient Sketch to Measure Threshold-t Flows in High-Speed Networks*
Yifan Han; He Huang; Yang Du; Yu-e Sun; Jia Liu; Kai Han; Hongli Xu

5. *ADSwitch: Adaptive CPU Scheduling for Distributed Systems*
Yidong Zhong; Yang Ao; Dingding Li; Jianguo Li; Deze Zeng

6. *Deep Reinforcement Learning based Dynamic Channel Bonding for Wi-Fi Networks*
Hao Chen; Peng Liu; Lizhao You; Ziyang Guo; Jiajun Luo; Xinghua Sun; Taotao Wang; Liqun Fu

ISPA-2: Systems and Architectures Track (II)
Session Chair: Yongling Huang, Huazhong University of Science and Technology, China

1. *A Decentralized Vehicle-to-Vehicle Energy Trading System Based on Efficient Sharding Services*
Kun Meng; Lijun Sun; Xiao Chen; Haiqin Wu; Shuaiyong Li

2. *FedEntropy: Efficient Federated Learning for Non-IID Scenarios Using Maximum Entropy Judgment-based Client Selection*
Zhiwei Ling; Zhihao Yue; Jun Xia; Ting Wang; Mingsong Chen; Xiang Lian

3. *Secure, Efficient, and Privacy-Protecting One-to-Many Cross-Chain Shared Data Consistency Audit*
Dan Li; Panpan Ding; Yuqian Zhou; Yu-Guang Yang; Chenting Li

4. *DRAS: A Scheduling Algorithm for Cloud-Based DAG with Deadline Constraints*
Jinglong Deng

5. *Economical Electricity Supplement for Mobile Collectors in Large-Scale Multitask WSNs*
Xin Zhai; Lijie Xu; Jialei Zhang; Kun Wang; Jia Xu; Bei Xu

6. *A Genetic Algorithm Based Adaptive Offloading Scheme for Domain Generalization in VEC*
Tianyu Li; Liang Zhao; Chaojin Mao; Na Lin; Qiang He; Xingwei Wang

ISPA-3: Systems and Architectures Track (III)
Session Chair: Xiao Ma, Zhongnan University of Economics and Law, China

1. *Predictive Queue-based Low Latency Congestion Detection in Data Center Networks*

Pingping Dong; Xiaojuan Lu; Tairan Huang; Liying Chen; Yang Yang; Lianming Zhang

2. Constructing Future Vehicle Digital Twins with Insights from Cloud-Edge Collaboration
Xin Shi; Liang Zhao; Na Lin; Lexi Xu; Ammar Hawbani; Yuanguo Bi

3. Data Quality Assessment by Utilizing Psychology Effect in Mobile Crowdsensing
Zhehao Cheng; Jiaoyan Chen; Jin Liu

4. All-Pairs SimRank Updates on Dynamic Graphs
Liangfu Zhang; Cuiping Li; Chuanwen Luo; Hong Chen

5. Fine-grained IoT device identification method based on self-supervised ViT
Kai Peng; Tong Lu; Song Mei; Nannan Xue; Yongchao Shen; Menglan Hu

6. An edge-oriented deep learning model security assessment framework
Pengbo Wang; BoYin Zhang; Shigeng Zhang; Xuan Liu

ISPA-4: Systems and Architectures Track (IV)
Session Chair: Meng Li, Nanjing University, China

1. Adaptive Splitting Algorithm for Neural Network Modeling in AMP
Kaifei Zhang; Yuxiang Ma; Yulei Wu; Tao Chen; Huijie Ma

2. Joint Request Offloading and Resource Allocation for Energy Efficient D2D Enabled Multi-type Inference Services
Ziyu Zeng; Jiale Huang; Jiaxin Wu; Jigang Wu

3. Libra: A Space-Efficient, High-Performance Inline Deduplication for Emerging Hybrid Storage System
Tianmeng Zhang; Renhui Chen; Congming Gao; Youtao Zhang; Jun Yang; Jiwu Shu

4. Exploring Imbalances among Microservice Containers in Large Cloud Platforms
Chenyu Nick Lin; Shutian Luo; Huanle Xu

5. Efficient Node Selection for Coding-based Timely Computation over Heterogeneous Systems
Yuxuan Lin; Bin Tang; Siyuan Zhou; Zaipeng Xie; Baoliu Ye

6. Discrete Geometric Coded Data Layout for Large-scale Object Storage Systems
Yi Tian; Guangping Xu; Hongzhang Yang; Yue Ni; Jiaxin Cao; Lei Yang

ISPA-5: Technologies and Tools Track (I)
Session Chair: Liang Zhong, China University of Geosciences, Wuhan, China

1. FinD: Fine-grained Dynamic Task Scheduling with Lightweight Threads on Many-core Processors
Nan Hu; Chenglu Yan; Zhiguang Chen; Yutong Lu

2. Software and Hardware Processing Method for Blockchain Light Node SPV Verification
Zhan'gang Ma; Jiandong Yan; Feng Zou; Xixin Cao

3. *The Adaptive Fault-tolerant Routing Based on an Improved Local Security Information Model of the Exchanged Hypercube*
Yazhi Zhang; Chuanwen Luo; Guijuan Wang; Li Zhang; Mengjie Lv; Jiguo Yu

4. *Reducing Latency of DAG-based Consensus in the Asynchronous Setting via the UTXO Model*
Liu Keyang; Maxim Jourenko; Mario Larangeira

5. *Defending T-BFA in DNNs Efficiently via Random Security-Sensitive Weights Switching*
Xiaohui Wei; Yumin Yan; Xiaonan Wang; Yi Hu; Hengshan Yue

6. *DPFCFI: A Hardware-Based Forward Control-Flow Integrity for Architecture and Microarchitecture*
Cairui She; Liwei Chen; Gang Shi

ISPA-6: Technologies and Tools Track (II)
Session Chair: Rong Gu, Nanjing University, China

1. *Parallel Integrity Authentication Data Structure Construction for Encrypted Range Queries*
Zhaokang Wang; Jiahui Pan; Lu Zhou; Zhonghui Zhang; Caocong Ji

2. *Evaluating Performance Portability of SYCL and Kokkos: A Case Study on LBM Simulations*
Yue Ding; Chuanfu Xu; Haozhong Qiu; Qingsong Wang; Weixi Dai; Yongzhen Lin

3. *A Moving Target Defense Approach for the Distributed Dynamic Network*
Lin Zhang; Yunchuan Guo; SiYuan Leng; Zifu Li; Fenghua Li; Liang Fang

4. *Low-overhead Privacy-preserving Location-based Skyline Query*
Yubo Peng; Xiong Li; Shuai Shang; Xiaofeng Wang; Xiaosong Zhang

5. *A BPF-Based Task Scheduling Scheme for Heterogeneous Multiprocessor Systems*
Jing Li; Peihao Yang; Linghe Kong; Guihai Chen

6. *EBFT: Efficient BFT Consensus through Shortcut Replies*
Qingsheng Lei; Yongjun Xia; Qitao Guo; Rui Hao; Xiaohai Dai; Weiqi Dai

ISPA-7: Technologies and Tools Track (III)
Session Chair: Xiaojing Ma, Huazhong University of Science and Technology, China

1. *Joint Resource Placement and Service Replica Placement Scheme in Mobile Edge Computing*
Surafel Kifetew Woldeyes; Yongmin Zhang; Wei Wang; Zhaohui Li

2. *Cryptanalysis of Space-Hard Ciphers under Strong White-Box Security*
Bin Li; Yufeng Tang; Yupeng Zhang; Hengxing Liu; Di Li; Zheng Gong

3. *ERODRL: Efficient ISP Routing Optimization via Deep Reinforcement Learning*
Changrui Chen; Xiaolin Chen; Deze Zeng

4. *ProMD: A Proactive Intrusion Response System for Enterprise Network with Multi-Domain*
SiYuan Leng; Fenghua Li; Liang Fang; Yitong Wen; Yunchuan Guo; Lin Zhang

5. *Parallel implementation of SHA256 on multizone heterogeneous systems*
Luo Yong Tao; Jie Liu; Xiao Tiao Jie; Chunye Gong

6. *Fast 2-out-of-n ECDSA Threshold Signature*
Lin Zhong; Yujue Wang; Daji Liang; Kevin He; Andrew Zhang; Jun Du

ISPA-8: Technologies and Tools Track (IV)
Session Chair: Yuanyuan He, Huazhong University of Science and Technology, China

1. *Evaluating Indicator Weights for Satellite Internet Security Assessment: an Approach to Combining Rough Set with Fuzzy Hierarchical Analysis*
Yuming Lu; Fenghua Li; Yitong Wen; Liang Fang; Shoukun Guo; Zifu Li

2. *Deep Reinforcement learning-based Network Moving Target Defense in DPDK*
Ke Shang; Weizhen He; Shuai Zhang; Zhen Zhang; Xin Shi

3. *SCRA: Systolic-Friendly DNN Compression and Reconfigurable Accelerator Co-Design*
Xun Zhang; ChengLiang Wang; Xingquan Piao; Ao Ren; Zhetong Huang

4. *Efficient Hybrid Fuzzing with Syntax-aware Input Trim Based on Lightweight Taint Analysis*
Long Gao; Yiru Zhao; Qihan Wan; Lei Zhao

5. *Enhancing Resource Allocation Efficiency for Collaborative End-Edge Tasks in the Metaverse's Virtual Reality*
Wangsheng Yan; Li Lin; Ruihong Huang; Jinbo Xiong; Tianqiang Huang; Mingwei Lin

6. *CSMA: Cascade-meta network for few-shot object detection*
Xin Jin; Shuting Li; Qian Jiang; Nanqing Liu; Shiyu Chen; Shin-Jye Lee

ISPA-9: Applications Track (I)
Session Chair: Jun Feng, Huazhong University of Science and Technology, China

1. *Xing He: Application Research of Vertical Federated Learning Technology in Banking Risk Control Model Strategy*
Yong Luo; Zhi Lu; Xiaofei Yin; Songfeng Lu; Yiting Weng

2. *A Novel Multi-scale Spatial Tiling Based Adaptive Streaming Method for 360° Video*
Haipeng Du; Huichuan Liu; Geli Lv; Xin Lv; Zhiwen Wang; Weizhan Zhang

3. *A NUMA-aware Graph Database for Hybrid Memory System*
Shaoheng Tan; Chang Liu; Dingding Li; Yong Tang; Deze Zeng

4. *Anomaly Detection in Battery Charging Systems: A Deep Sequence Model Approach*
Li Zheng; Donghui Ding; Zhao Li; Jun Gao; Jie Xiao; Hongyang Chen; Schahram Dustdar; Ji Zhang

5. *A Federated Learning Aggregation that Integrates Clustering and Momentum Correction Based on Historical High-Quality Gradients*
Jian Xu; Bing Guo; Fei Chen; Yan Shen; Shengxin Dai; Cheng Dai

6. *TGT: Churn Prediction in O2O Logistics with Two-tower Gated Transformer*
Baoshen Guo; Hai Wang; Hao Liu; Wei Gong; Wei Xi; Xiaolei Zhou; Shuai Wang

ISPA-10: Applications Track (II)
Session Chair: Ming Wen, Huazhong University of Science and Technology, China

1. *Cost-Effective Dynamic Alliance Pricing Mechanism Based on Distributed Edge-Intelligence*
Zhihan Cao; Xi Zheng; Jianxiong Guo; Weijia Jia; Yang Xu; Tian Wang

2. *Efficient Large Scale Reverse-time Migration Imaging Computation based on Distributed Spark Cluster with GPUs*
Rong Gu; Ruizhang Yang; Suhui Wangzhang; Bo Li; Dingjin Liu; Zhaokang Wang

3. *Content Style-triggered Backdoor Attack in Non-IID Federated Learning via Generative AI*
Jinke Cheng; Gaolei Li; Xi Lin; Hao Peng; Jianhua Li

4. *Partial Deep Domain Adaptation for Non-Intrusive Load Monitoring*
Yuying Li; Yang Yang; Chen Wang; Runqin Liu; Hongbo Jiang; Wenping Liu

5. *A Space-Efficient Digital Wallet Service in Blockchain Systems*
Jingyu Zhang; Jin Yang; Chenghao Wu; Lailong Luo

6. *FSKY-Miner: Fast Mining of Skyline Patterns*
Chengdong Chen; Wensheng Gan; Jiahui Chen; Shicheng Wan

ISPA-11: Applications Track (III)
Session Chair: Xiuhua Wang, Huazhong University of Science and Technology, China

1. *High-Order Faithful Interpretation Methods for Tensor-Based CNNs*
Pengxu Chen; Huazhong Liu; Hanning Zhang; Jihong Ding; Yufan Zhang

2. *A Semantic-Driven Generative Information Extraction Framework Oriented to Patent Text*
Yushan Zhao; Shunxiang Zhang; Tengke Wang

3. *Power Grid Encrypted Data Range Filtering Scheme Based on Order-revealing Encryption*
Hongyi Qiao; Cong Peng; Min Luo; Po Wu; Debiao He

4. *A Distributed Storage System for System Logs Based on Hybrid Compression Scheme*
Baoming Chang; Fengxi Zhou; Zhaoyang Wang; Yu Wen

5. *Twin Branch Transformers-Based Re-Ranking for Image Retrieval*
Wang Ziqi; Wei Wang

ISPA-12: Data Science and Security
Session Chair: Shixin Peng, Central China Normal University, China

1. *An SGX and Blockchain-Based System for Federated Learning in Classifying COVID-19 Images*
Sihang Qin; Xianjun Gu; Xing Jun; Haitao Li; Mengqi Huang; Weiqi Dai

2. *HKTGNN: Hierarchical Knowledge Transferable Graph Neural Network-based Supply Chain Risk Assessment*
Zhanting Zhou; Kejun Bi; Yuyanzhen Zhong; Chao Tang; Dongfen Li; Ying Shi; Ruijin Wang

3. *Partitioning-based Active Trust Mechanism in Cloud-Edge-Device Collaborative Data Collection*
Zhuoqun Xia; Ziyu Wang; Xiao Liu

4. *Preserving Privacy of Input Features Across All Stages of Collaborative Learning*
Lulu Xue; Minghui Li; Leo Yu Zhang

5. *Trusted Auditing of Data Operation Behaviors in Cloud based on Blockchain and TEE*
Shujiang Xu; Fansheng Wang; Lianhai Wang; Miodrag Mihaljević; Shuhui Zhang; Wei Shao; Qihao Huang

6. *PE-FedAvg: A Privacy-Enhanced Federated Learning for Distributed Android Malware Detection*
Junwei Tang; Zilong Xu; Luyao Ye; Tao Peng; Ruhan He; Xinrong Hu; Wenlong Tian

The BDCloud 2023 Physical Presentation Program

BDCloud-1: Big data and Cloud Computing (I)
Session Chair: Xiaoxuan Fan, Huazhong University of Science and Technology, China

1. *Research on Pilot's Workload Based on Multisource Data*
Haibo Wang; Mengyue Xu; Gen Li; Ting Pan; Haiqing Si; Haibo Liu; Yixuan Li; Yijin Zhu

2. *Efficient Giant Graph Unlearning via Push-Pull Tuning*
Fahao Chen; Peng Li; Shui Yu

3. *Contrastive Learning-Based Generic Audio-to-Lyrics Alignment*
Jin Zhenkun; Shuai Huang; Xin Nie; Xinlei Zhou; Yuanyuan Yi; Gefei Zhou

4. *BT-Duper: A Binomial-Tree Based Data Replication Offloading Method with Native RDMA Primitives*
Yang Yi; Yuting Li; Yun Xu; Pengcheng Wang; Yonghui Xu; Weiguang Wang

BDCloud-2: Big data and Cloud Computing (II)
Session Chair: Kai Cui, Huazhong University of Science and Technology, China

1. *DQR-TTS: Semi-supervised Text-to-speech Synthesis with Dynamic Quantized Representation*
Jianzong Wang; Pengcheng Li; Xulong Zhang; Ning Cheng; Jing Xiao

2. *iNUMAlloc: Towards Intelligent Memory Allocation for AI Accelerators with NUMA*
Yuanchao Xu; Ruyi Qian; Yida Wang

3. *BAFD: A Bidirectional Adaptive Fault Diagnosis Algorithm For Multiprocessor Systems*
Lin Chen; Hao Feng; Jiong Wu

4. *Detect Human Falls in an End-Edge-Cloud Orchestrated Architecture*
Xiaojun Hei; Peter Kubare; Yuan Tian

The SocialCom 2023 Physical Presentation Program

SocialCom-1: Social computing and networking
Session Chair: Yuanyuan Yi, Huazhong University of Science and Technology, China

1. *Tweeting from Left to Right: Tracing the Dynamics of Emotional Messaging and Public Engagement During the 2018 vs. 2022 US Campaigns*
Meng-Jie Wang

2. *Style Transfer of Traditional Chinese Bamboo Flute Music Based on AI Model*
Ziqi Qin

3. *Ranking on Heterogeneous Manifold for Multimodal Information Retrieval*
Jin Zhenkun; Xingshi Wan; Xin Nie; Xinlei Zhou; Yuanyuan Yi; Gefei Zhou

4. *Large-scale k Edge Server Placement Based on User Clustering and Intelligent Search*
Chengying Mao; Haiquan Hu

5. *Cross Domain Few Shot NER Via Data Enhancement Invariant Domain Feature Extraction Based on Diffusion Model*
Kunlun Guan; Yangsen Zhang

The SustainCom 2023 Physical Presentation Program

SustainCom-1: Sustainable Computing and Communications
Session Chair: Yixuan Geng, Huazhong University of Science and Technology, China

1. *A Learning Auction Mechanism for Video Streaming Transmission with Decoupling Uplink-Downlink Association*

Yejin Liao; Kun Zhu; Juan Li; Yang Zhang

2. *Hierarchical Task Scheduling for Heterogeneous UAVs based on Hybrid Genetic Algorithm*

Ziming Zeng; Chao Dong; Xiaojun Zhu; Lei Zhang

3. *Link load balancing scheme for elephant flow in SDN data center*

Feifan Hao

4. *MAS-DDPG: Multi-Sensor Self-Adaptive Scheduling for UAV Path Planning in Network-Unavailable Environments*

Na Lin; Zhijiang Wang; Liang Zhao

5. *Improved Virtual Force Algorithm-Based Fuzzy Clustering in Mobile Wireless Sensor Networks*

Jintao Yang; Minghua Wang; Wenbo Chen; Shujing Xie

The SpaCCS 2023 Physical Presentation Program

SpaCCS-1: Security and Anonymity (I)
Session Chair: Junjie Su, Huazhong University of Science and Technology, China

1. *An Application-level Synchronization Method for Heterogeneous Redundant Structures*
Hong Yu

2. *A Firmware Vulnerability Detection Method Based on Feature Filtering*
Bing Xia; Chongjun Tang; Wenbo Liu; Shihao Chu; Yu Dong

3. *A Gradient-guided Fuzzing Approach to Recover More Complete Control Flow Graph of Binary*
Qianjin Wang; Xiangdong Li; Yuchen He; Chong Yue

4. *An Online Detection System for LDoS attack Based on XGBoost*
Deng jia lun J Deng, Sr.; Li Cheng; Haiwen Yuan; Zheng kuanlei K Zheng; Xuan Li; Li quli Q Li

5. *OWETC: Open world encrypted traffic classification based on semi-supervised class incremental learning*
Zhao Meng; Zhe Xia; Jing Tian; Jianwen Xiang; Zhu Di; Lin Jun

SpaCCS-2: Security and Anonymity (II)
Session Chair: Zhenkun Jin, Wuhan Business University, China

1. *Joining a Private Group with Friends Nearby without PIN-code*
Kun Zhao; Wei Xi; Lingzhi Yi; F; Yijing He

2. *GPS L1 C/A Spoof Detection Through the Application of Deep Neural Networks*
Hen-Geul Yeh; Daniel Farthing

3. *BILAM: A BiLSTM-Based Model for Detecting Phishing Scams in Ethereum*
Mingshun Ye; Weili Chen; Mingdong Tang

4. *CLN-VC: Text-Free Voice Conversion Based on Fine-Grained Style Control and Contrastive Learning with Negative Samples Augmentation*
Yimin Deng; Xulong Zhang; Jianzong Wang; Ning Cheng; Jing Xiao

5. *Cooperative Completing Tasks of Charging WRSNs with Multiple MUVs and Laser-charged UAVs*
Chuanwen Luo; Ning Liu; Ting Chen; Jia Cao; Yi Hong; Zhibo Chen; Deying Li

National CyberSecurity Center International Congress

IEEE ISPA/BDCloud/SocialCom/SustainCom/SpaCCS-2023
Online Presentation Program

SpaCCS-3: Security and Anonymity (III)
Session Chair: Jiaoyan Chen, Wuhan University of Science and Technology, China

1. *Protecting Critical Infrastructure: Strategies for Managing Cybersecurity Risks in Nuclear Fusion Facilities*
Olufunsho I. Falowo; Chengcheng Li; Jess Kropczynski

2. *An In-Kernel Inline Crypto Solution for eXpress Data Path With QuickAssist Technology: Design, Prototyping and Performance Evaluation*
Zhan Xue; Magnus Karlsson; Tao Yu; Aleksander Lobakin; Maciej Fijalkowski; Jesse Brandeburg

3. *Reversible Data Hiding Scheme Based On Prediction Error Bit-plane Compression*
Yuan Guo

4. *Resource-Limited Localized Adaptive Adversarial Training for Machine Learning Model*
Mohammed Tariq Rajhi

5. *AdvBinSD: Poisoning the Binary Code Similarity Detector via Isolated Instruction Sequences*
XiaoYu Yi; Gaolei Li; Ao Ding; Yuqing Li; Yan Zheng; Jianhua Li

6. *A signel-channel blind signal separation method based on signal type difference for time-frequency overlapped signal*
Lihui Pang; Yilong Tang; Yulang Liu; Bin Yang; Qingyi Tan

CyberSecurity-1: Data Science and Security
Session Chair: Xinlei Zhou, Wuhan Research Institute of Posts and Telecommunications, China

1. *Routers' Energy Consumption Reduction With Load Saturation Awareness And Traffic Steering*
Lijun Dong; Richard Li

2. *Parallel and Batch Multiple Replica Auditing Protocol for Edge Computing*
Yi Li; Wenying Zheng; P Vijayakumar; Zakirul Alam Bhuiyan; C Thamilarasi

3. *The Instruction Separation Framework against Man-At-The-End Attacks: Protect What is Mattered On-the-Fly*
Jiaxuan Wu; Wei-Yang Chiu; Peichen Liu; Weizhi Meng; Wenjuan Li

4. *Privacy-Preserving Federated Learning through Clustered Sampling on Fine-Tuning Distributed non-iid Large Language Models*
Sheng Yun; Zakirul Alam Bhuiyan

5. *EIF: A Mediated Pass-Through Framework for Inference as a Service*
Yiming Gao; Zhen Wang; Weili (lily) Wu; Herman Lam

6. Jump off the Bandwagon? Characterizing Bandwagon Fans' Future Loyalty in Online NBA Fan Communities
Yichen Wang; Qin Lv

National CyberSecurity Center International Congress

IEEE ISPA/BDCloud/SocialCom/SustainCom/SpaCCS-2023 Poster Session

Poster Session (I)

1. *K-means++ and Reinforcement LearningBased Clustering to Achieve Energy Efficiency in Underwater Acoustic Sensor Networks*
Tao Xiong; Rui Hou; Lingyun Zhou; Guanglin Xing; Deze Zeng

2. *Traceable Ring Signature Scheme in Internet of Vehicles Based on Lattice Cryptography*
Wei Liao; Lansheng Han; Peng Chen

3. *VSNT: Adaptive Network Traffic Forecasting via VMD and Deep Learning with SCI-Block and Attention Mechanism*
Pingping Dong; Yuning Zuo; Liying Chen; Li Shangyu; Lianming Zhang

4. *Ensuring Minority Group Rights in Social IoT with Fairness-aware Federated Graph Node Classification*
Qinghua Mao; Xi Lin; Gaolei Li; Lixing Chen; Yuchen Liu; Jianhua Li

5. *Localization and Tracking using ODE-LSTM Algorithm with Non-Line-of-Sight Channels*
Xiao Zhao; Feng Tian; Ziling Shao

6. *Lightweight Security Authentication Scheme for Vehicle-Road Collaboration using Physical Unclonable Function*
Zhuoqun Xia; Chao Su; Zisang Xu; Kejun Long

7. *Adaboost-based Graph Convolutional Networks with Channel Attention for Intrusion Detection in Internet-of-Things*
Cuiting Luo; Jing Long; Ruxin Chen; Liang Wei; Zheng Qin

8. *VLEO Satellite Radio Access Network Slicing: A Hierarchical Deep Reinforcement Learning Approach*
Juan Luo; Ruoyu Xiao; Peng Sun; Ying Qiao

9. *GANDPS: Ensuring Both Detection Precision and Stability in GAN-based Anomaly Detection for Network Traffic*
Liuhuan Li; XiMin Yang; Xiao Zhang; Yumeng Yang; Xuefeng Chen; Wan Tang

10. *Efficient Differentially Private Tensor Factorization in the Parallel and Distributed Computing Paradigm*
Feng Zhang; Hao Wang; Erkang Xue; Ruixin Guo; Guangzhi Qu

11. *Disentangling Client Contributions: Improving Federated Learning Accuracy in the Presence of Heterogeneous Data*
Chunming Liu; Daniyal M Alghazzawi; Li Cheng; Gaoyang Liu; Chen Wang; Cheng Zeng; Yang Yang

12. *FedCSA: Boosting the Convergence Speed of Federated Unlearning under Data Heterogeneity*
Zhen Wang; Daniyal M Alghazzawi; Li Cheng; Gaoyang Liu; Chen Wang; Cheng Zeng; Yang Yang

13. *Semi-asynchronous Federated Learning Optimized for NON-IID Data Communication based on Tensor Decomposition*
Qidong Wu; Xuemei Fu; Yang Xiangli; Ruonan Zhao; Wu Chengqian; Zhang Tinghua

14. *GPU-Accelerated Maximal Bicliques Mining Framework for Large E-commerce Networks*
Jingdong Li; Zhao Li; Xiaoling Wang; Xingjian Lu; Ji Zhang

15. *DepotDB: Mitigate Write Amplification with Region Compaction on KV Stores for Periodic Write-Intensive Workloads*
Zhixin Fan; Yaohui Zhang; Jiang Zhou; Bo Li; Yong Chen; Weiping Wang

16. *Graph-based Multi-view Clustering for Web services*
Yang Wang; Zhenzhen Yuan; Guosheng Kang; Jianxun Liu; Buqing Cao; Yong Xiao

17. *Deep Reinforcement Learning to Enhance the Energy-efficient Performance of Unmanned Aerial Vehicles-enabled Fog Radio Access Networks*
Liu Chuanjie; Ren Siyu; Shuang Du; Cheng Dai; Bing Guo; Fan Runzhi

18. *Continuous Complex Relational Community Detection on Multi-layer Networks*
Chuanyu Zong; Ziyi Cai; Wenju Li; Tao Qiu; Jiajia Li; Xiufeng Xia

19. *Transaction Data Management Optimization Based on Multi-Partitioning in Blockchain Systems*
Jingyu Zhang; Xingxing Hou; Yilong Teng; Lailong Luo

20. *CP-EB: Talking Face Generation with Controllable Pose and Eve Blinking Embedding*

Jianzong Wang; Yimin Deng; Ziqi Liang; Xulong Zhang: Ning Cheng; Jing Xiao

Poster Session (II)

1. *A High-Performance Data Verification Mechanism in Blockchain-Based IoT Systems*
Jingyu Zhang; Pian Zhou; Yongtao Sun; Lailong Luo

2. *HBC: Combining Lossy and Lossless Hybrid Bilayer Compression Framework on Time-Series Data*
Wanying Lu; Liang Liu; Wenbin Zhai; Haoyuan Chen; Yulei Liu

3. *Adaptive Fusion of Single-stream and Dual-stream Models based on Cross-modal Association Strength for Harmful Meme Detection*
Meng Lin; Qinghao Huang; Tao Guo

4. *An Efficient Decentralized Mutual Authentication Scheme Between Avatars for Metaverse*
Peng Huang; Zisang Xu; Wei Liang; Jianbo Xu; Bin Zheng

5. *Cross-subject Drowsiness Recognition Model Based on the Multi-scale Parallel Convolution of EEG Channels*
Songquan Li; Rongbo Zhu; Jun Yuan; Shaohua Wan

6. *Ant: An Efficient Lossless Compression Algorithm of IoT Time Series Data*
Junhui Li; Guangping Xu; Hongzhang Yang; Yulei Wu

7. *Hybrid Distribution Separation for Prediction of Heterogeneous Zero-Inflated Time Series*
Zhixin Huang; Jiaxiang Lin; Qianqian Chen; Zhenchang Zhang

8. *A Write-Optimized and Parallel-Efficient B+-tree for Persistent Memory*
Xianyu He; Runyu Zhang; Pengpeng Tian; Lening Zhou; Min Lian; Mingjie Li; Yunlin Tan; Chaoshu Yang

9. *A Few-shot Learning Approach for Anomaly Detection in Cooperative Tracking Control System*
Jieqi Rong; Weirong Liu; Xiaoquan Yu; Wanwan Ren; Boyu Shu; Jun Peng

10. *A Multi-attention Based CNN-BiLSTM Intrusion Detection Model for In-vehicle Networks*
Hao Huang; Kai Gao; Linhong Liu; Ronghua Du; Jinlai Zhang

11. *Multi-Head Self-Attention Enhanced Convolutional Neural Network for Driver Fatigue Detection using EEG Signals*
Kai Gao; Wenhao Jia; Ronghua Du; Yuxiang Zhou

12. *Prediction of hydraulic pumps remaining useful life based on LSTM and Transform with dual self-attention*
Peng Liu; Shanghong He; Kai Gao; Geng Yang; Junhui Zou; Longsheng Ye

13. *Energy Efficient Speed Planning of Electric Vehicles for Vehicle-Following Scenarios Using Data-driven Koopman Model*
Bin Chen; Miaoben Wang; Feng Zhou; Haoyang Yan; Ronghua Du

14. *Autonomous cruise control of intelligent high-speed train with online energy-saving optimization*
Feng Zhou; Hongkun Liang; Kewu Tao; Shuo Li

15. *Hierarchical Data-Enabled Predictive Control Strategy for Energy Management of Electric Vehicles*
Bin Chen; Guo He; Feng Zhou; Hao Huang; Wei Liu; Ronghua Du

16. *Research on Multi-vehicle Formation Control with the Assistance of the Characteristic Model in the Networked Environment*
Jin Guo; You Wu; Yi Lei; Guotan Liu; Ronghua Du

17. *An Autoencoder-Driven FDIA Dectection Method for Virtual Coupling Systems of Heavy-Haul Trains*
Wanwan Ren; Jun Peng; Rui Zhang; Jieqi Rong; Boyu Shu; Yongting Liu; Yingze Yang

18. *A Physics-Informed Integrated Modeling Method for Lithium-ion Batteries*
Yunsheng Fan; Zhiwu Huang; Kaifu Guan; Boyu Shu; Yongjie Liu; Zeyu Zhu; Peinan He; Shuo Li

19. SOC Estimation of Supercapacitor Balancing Systems: A Switching Kalman Filter Approach
Peinan He; Taozhen Chang; Shuo Li

20. Quantum Information Technology for Network Security: An Application-Focused Overview
Huan Wang; Xiaoyang Lai

21. A New Dataset for Intrusion Detection in Industrial Control System: A Gas Pipeline Testbed Study
Longmin Deng; Xuemin Zhang; Qianrong Zheng; Dongdong Zhao; Junwei Zhou; Jianwen Xiang

22. An Active Security Defense Strategy for Microservices based on Deep Reinforcement Learning
Yuanbo Li; Hongchao Hu; Shuai Zhang; Guozhen Cheng; Wenyan Liu

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