National CyberSecurity Center International Congress

The IEEE Hyper-Intelligence Congress 2024

The 26th IEEE International Conferences on High Performance Computing and Communications
(HPCC 2024)
The 10th IEEE International Conference on Data Science and Systems
(DSS 2024)
The 22nd IEEE International Conference on Smart City
(SmartCity 2024)
The 10th IEEE International Conference on Dependability in Sensor, Cloud & Big Data Systems & Applications
(DependSys 2024)
The 20th IEEE International Conference on Embedded Software and Systems
(ICESS 2024)
The 2024 IEEE International Conference on Data, Information, Knowledge and Wisdom
(DIKW 2024)

December 13-15, 2024, Wuhan, Hubei

http://www.ieee-hust-ncc.org/2024/HPCC/
Conference Program and Information Booklet

IEEE COMPUTER SOCIETY TCSC
Technical Committee on Scalable Computing

IEEE COMPUTER SOCIETY

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Presentation Guidelines

Conference Date
The conference is to be held in December 13-15 2024. The time for conference program is based on CST, China Standard Time.

Language
The presentation language of the IEEE HPCC/DSS/SmartCity/DependSys/ICESS/DIKW-2024 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.

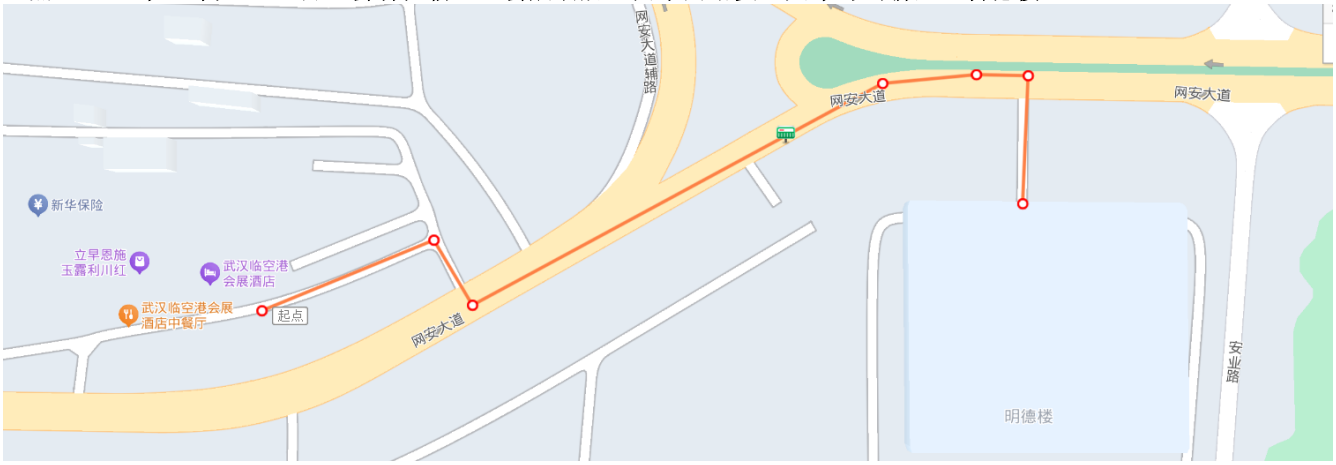
It is recommended that all IEEE HPCC/DSS/SmartCity/DependSys/ICESS/DIKW-2024 presentations should **not exceed 15 minutes**. However, the Session Chairs will determine the exact presentation time for each paper, based on the number of presentations in each session. The Session Chairs will ensure that 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/hpccpub24
The username and password will be sent to all fully registered participants separately.

Help
For any assistance, please contact:
ieee-hpcc-2024@googlegroups.com
liushenghao@hust.edu.cn
chensn@hust.edu.cn

Conference Venue

Besides twelve physical rooms, the following link are for online conference presentation:
Keynote (Zoom URL): https://zoom.us/j/99984277106?pwd=XvZ22dyT7j5a4sfjnXcQRgpYbMbUvy.1
ID: 999 8427 7106; Password: HUST
地点：2024 年 12 月 13-15 日主会场在临空港会展酒店，国家网络安全人才与创新基地明德楼



Welcome Message from the Congress Chair

Welcome to the National CyberSecurity Center International Congress 2024 which includes the 26th IEEE International Conferences on High Performance Computing and Communications (HPCC 2024), the 10th IEEE International Conference on Data Science and Systems (DSS 2024), the 22nd IEEE International Conference on Smart City (SmartCity 2024), the 10th IEEE International Conference on Dependability in Sensor, Cloud & Big Data Systems & Applications (DependSys 2024), the 20th International Conference on Embedded Software and Systems (ICESS 2024), the 2024 International Conference on Data, Information, Knowledge and Wisdom (DIKW 2024).

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 13-15, 2024, Wuhan, Hubei, China.

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

Laurence T. Yang, Vice President of Academia, Dean and Chief Professor of School of Computer and Artificial Intelligence and School of Software
Zhengzhou 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

Beniamino Di Martino, Full Professor
Università della Campania “Luigi Vanvitelli”, Italy
Editor or Associate Editor of Seven Scientific Journals
Member of the IEEE Standardization Working group on Cloud Interoperability, TCSC, TCBD, the Cloud Standards Customer Council and the Cloud Computing Experts Group of the European Union
Congress Steering Chair

Congress Keynotes

Keynote 1: Dusit Niyato, Nanyang Technological University, Singapore

Toward Scalable Generative AI via Mixture of Experts in Mobile Edge Networks

Keynote 2: Yan Jia, Peng Cheng Laboratory, China

Cyberspace Security Situation Awareness: Techniques, Systems and Applications

Keynote 3: Jinjun Chen, Swinburne University of Technology, Australia

Composite DP-unbias: Bounded and Unbiased Composite Differential Privacy

Keynote 4: Yunhao Liu, Tsinghua University, China

AIOT: From Digital-follow-up to Digital-Leadoff

Keynote 5: Meikang Qiu, Augusta University, USA

Adversarial Attacks Prevention for Deep Neural Networks

Keynote 6: Rajiv Ranjan, Newcastle University, United Kingdom

Data and Resource Management Challenges for Digital Twins

Keynote 1: Toward Scalable Generative AI via Mixture of Experts in Mobile Edge Networks

Dusit Niyato

About the Keynote Speaker

ABSTRACT: The evolution of generative artificial intelligence (GenAI) has driven revolutionary applications like ChatGPT. The proliferation of these applications is underpinned by the mixture of experts (MoE), which contains multiple experts and selectively engages them for each task to lower operation costs while maintaining performance. Despite MoE's efficiencies, GenAI still faces challenges in resource utilization when deployed on local user devices. Therefore, we first propose mobile edge networks supported MoE-based GenAI. Rigorously, we review the MoE from traditional AI and GenAI perspectives, scrutinizing its structure, principles, and applications. Next, we present a new framework for using MoE for GenAI services in Metaverse. Moreover, we propose a framework that transfers subtasks to devices in mobile edge networks, aiding GenAI model operation on user devices. Moreover, we introduce a novel approach utilizing MoE, augmented with Large Language Models (LLMs), to analyze user objectives and constraints of optimization problems based on deep reinforcement learning (DRL) effectively. This approach selects specialized DRL experts, and weights each decision from the participating experts. In this process, the LLM acts as the gate network to oversee the expert models, facilitating a collective of experts to tackle a wide range of new tasks. Furthermore, it can also leverage LLM's advanced reasoning capabilities to manage the output of experts for joint decisions. Lastly, we insightfully identify research opportunities of MoE and mobile edge networks.

BIO: Dusit Niyato is currently a President's Chair Professor in the College of Computing & Data Science (CCDS), Nanyang Technological University, Singapore. Dusit's research interests are in the areas of mobile generative AI, edge intelligence, quantum computing and networking, and incentive mechanism design. Currently, Dusit is serving as Editor-in-Chief of IEEE Communications Surveys and Tutorials (impact factor of 34.4 for 2023) and will serve as the Editor-in-Chief of IEEE Transactions on Network Science and Engineering (TNSE) from 2025. He is also an area editor of IEEE Transactions on Vehicular Technology (TVT), topical editor of IEEE Internet of Things Journal (IoTJ), lead series editor of IEEE Communications Magazine, and associate editor of IEEE Transactions on Wireless Communications (TWC), IEEE Transactions on Mobile Computing (TMC), IEEE Wireless Communications, IEEE Network, IEEE Transactions on Information Forensics and Security (TIFS), IEEE Transactions on Cognitive Communications and Networking (TCCN), IEEE Data Descriptions, IEEE Transactions on Services Computing (TSC), and ACM Computing Surveys. He was also a guest editor of IEEE Journal on Selected Areas on Communications. Dusit is the Members-at-Large to the Board of Governors of IEEE Communications Society for 2024-2026. He was named the 2017-2023 highly cited researcher in computer science. He is a Fellow of IEEE and a Fellow of IET.

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Keynote 2: Cyberspace Security Situation Awareness: Techniques, Systems and Applications

Yan Jia

About the Keynote Speaker

ABSTRACT: Starting from the concept and important status of cyber security situation awareness, the report first gives three application requirements of situation awareness: content security public opinion incident situation awareness, system security attack incident situation awareness, and offensive and defensive confrontation situation assessment; Secondly, three challenges for the application requirements are given: accuracy, real-time and comprehensive. Thirdly, the multi-dimensional relational cognitive model MDATA and its development techniques are given to solve these challenges. Finally, the application and effect of related theories and techniques are given.

BIO: Dr. Yan Jia, Professor, currently serves as the head of a major project at the National Laboratory and as the chief at the National Engineering Research Center for Industrial Control System Information Security Technology. She is also the vice president of the Chinese Information Processing Society. Her main research directions include the application of artificial intelligence and big data analysis technologies in the field of cybersecurity. As a project leader, she has undertaken and led over 20 national-level major and key projects. She has received five Second-Class National Science and Technology Progress Awards (ranked 1, 1, 1, 2, 3) and has published more than 320 papers indexed by SCI and EI, authored eight monographs, and obtained over 100 invention patents. She is the principal initiator and committee chair of international forums such as FFD and international conferences including IEEE DSC and CSE.

Keynote 3: Composite DP-unbias: Bounded and Unbiased Composite Differential Privacy

Jinjun Chen

About the Keynote Speaker

ABSTRACT: The most kind of traditional DP (Differential Privacy) mechanisms (e.g. Laplace, Gaussian, etc.) have unlimited output range. In real scenarios, most datasets have bounded output range. Users would then need to use post-processing or truncated mechanisms to forcibly bound output distribution. However, these mechanisms would incur bias problem which has been a long-known DP challenge, resulting in various unfairness issues in subsequent applications. A tremendous amount of research has been done on analyzing this bias problem and its consequences, but no solutions can solve it fully.

As the world first solution to solve this long-known DP bias problem, this talk will present a new innovative DP mechanism named Composite DP-unbias. It will first illustrate this long-known bias problem, and then detail the rational of the new mechanism and its example noise functions as well as their implementation algorithms. All source codes are publicly available on Github for any deployment or verification.

BIO: Dr. Jinjun Chen is a Professor from Swinburne University of Technology, Australia. He holds a Ph.D. in Information Technology from Swinburne University of Technology, Australia. His research interests include data privacy and security, cloud computing, scalable data processing, data systems and related various research topics. His research results have been published in more than 300 papers in international journals and conferences. He received various awards such as IEEE TCSC Award for Excellence in Scalable Computing and Australia's Top Researchers. He has served as an Associate Editor for various journals such as ACM Computing Surveys, IEEE TC, TCC and TSUSC. He is a MAE (Academia Europea) and IEEE Fellow (IEEE Computer Society). He is Chair for IEEE TCSC (Technical Community for Scalable Computing).

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Keynote 4: AIOT: From Digital-follow-up to Digital-Leadoff

Yunhao Liu

About the Keynote Speaker

ABSTRACT: We have passed the period of Digital-Follow-up, and now we are in Digital Twin, and trying to enter Digital-lead-off of Industrial Internet of Things. I will share lessons learned from our recent implementations of AIOT systems in oil refinery and glass factories in Middle East, United States, and China.

BIO: Yunhao Liu, ACM Fellow, IEEE Fellow, Professor at the Department of Automation in Tsinghua University, Beijing, China. He served as the Dean of School of Software in Tsinghua, and the MSU Foundation Professor and the Chairperson of Department of Computer Science and Engineering in Michigan State University. Yunhao received his B.S. degree in the Department of Automation at Tsinghua University, and an M.A. degree at Beijing Foreign Studies University, China. He received an M.S. and a Ph.D. degree in Computer Science and Engineering at Michigan State University, USA. Yunhao received Hong Kong ICT Best Innovation and Research Award Grand Prize 2007, China Ministry of Education First Class Natural Science Award 2010, Second Class National Natural Science Award 2011, ACM Presidential Award 2013, CCF Wang Xuan Award 2022, as well as many best paper awards including ACM MobiCom 2014 best paper award, ACM SenSys 2021 Best Paper Award, and SIGCOMM 2021 Best Student Paper Award.

Keynote 5: Adversarial Attacks Prevention for Deep Neural Networks

Meikang Qiu

About the Keynote Speaker

ABSTRACT: AI Cybersecurity is a hot research area. In this talk, I will present a detailed research topic about adversarial attacks prevention methods. Our group proposed an advanced gradient-based approach for mitigation of adversarial attacks in Deep Neural Networks (DNN). The proposed approach adopted a random distortion transformation defense method called RDG (Random Distortion over Grids) and we combined it with non-linear defenses to thwart adversarial attacks. Extensive evaluation demonstrated the efficiency of this state-of-art defense approach.

BIO: Meikang Qiu received the BE and ME degrees from Shanghai Jiao Tong University and received a Ph.D. degree in Computer Science from University of Texas at Dallas. Currently, He is a full professor at Augusta University. He is an ACM Distinguished Member. He received the Life-Achevement Award from IEEE Bio-Inspired Computing STC in 2023. He is also a Highly Cited Researcher in 2021 from Web of Science and IEEE Distinguished Visitor in 2021-2023. He is currently the Chair of IEEE Cyber Systems and Engineering Technical Committee and was the Chair of IEEE Smart Computing Special Technical Committee. Till now his Google scholar citation is 26600+ and H-index 108. His research interests include Cyber Security, AI, ML, Big Data, Smarting Computing, Embedded systems, etc. He has published extensively in top conferences such as ACM CCS, ICML, IJCAI, ECCV, DAC, and many IEEE/ACM Transactions. His paper on Tele-health system has won IEEE Systems Journal 2018 Best Paper Award. His paper about data allocation for hybrid memory has been published in IEEE Transactions on Computers has been selected as IEEE TCSC 2016 Best Journal Paper and hot paper (1 in 1000 papers by Web of Science) in 2017. His paper published in IEEE Transactions on Computers about privacy protection for smart phones has been selected as a Highly Cited Paper in 2017-2020. 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 (such as KSEM 2024 Best Paper Award) in recent years.

Keynote 6: Data and Resource Management Challenges for Digital Twins

Rajiv Ranjan

About the Keynote Speaker

ABSTRACT: Digital twins are revolutionizing industries by providing real-time simulation, monitoring, and predictive analytics capabilities. However, their success hinges on overcoming significant data and resource management challenges. This keynote will explore four key issues critical to the advancement and scalability of digital twins. First, we will discuss the complexities of real-time data processing within the edge-cloud-IoT continuum, emphasizing the need for seamless integration and efficient resource allocation across distributed systems. Second, we will explore the use of Large Language Models (LLMs) for dynamic verification of the resilience of digital twins, highlighting their potential to enhance adaptability and real-time decision-making. Third, we will examine end-to-end monitoring strategies to ensure data integrity, transparency, and reliability, enabling trust in automated decision processes. Finally, we will address the integration of emerging computational technologies, such as quantum accelerators (e.g., Quantum Brilliance) and neuromorphic chips (like Intel Loihi and BrainChip Akida), at the edge network to accelerate data processing and improve the responsiveness of digital twins. This talk will provide insights into how these advancements can be leveraged to develop robust, scalable, and intelligent digital twin ecosystems, driving innovation and efficiency in real-world applications.

BIO: Professor Rajiv Ranjan is an Australian-British computer scientist, of Indian origin, known for his research in Distributed Systems (Cloud Computing, Big Data, and the Internet of Things). He is University Chair Professor for the Internet of Things research in the School of Computing of Newcastle University, United Kingdom. He is an internationally established scientist in the area of Distributed Systems (having published about 350 scientific papers). He is a fellow of IEEE (2024), Academia Europaea (2022) and the Asia-Pacific Artificial Intelligence Association (2023). He is also the Founding Director of the International Centre (UK-Australia) on the EV Security and National Edge Artificial Intelligence Hub, both funded by EPSRC. He has secured more than $64 Million AUD (£32 Million+ GBP) in the form of competitive research grants from both public and private agencies. He is an innovator with strong and sustained academic and industrial impact and a globally recognized R&D leader with a proven track record. He serves on the editorial boards of top quality international journals including IEEE Transactions on Computers (2014-2016), IEEE Transactions on Cloud Computing, ACM Transactions on the Internet of Things, The Computer (Oxford University), and The Computing (Springer) and Future Generation Computer Systems. He led the Blue Skies section (department, 2014-2019) of IEEE Cloud Computing, where his principal role was to identify and write about the most important, cutting-edge research issues at the intersection of multiple, inter-dependent research disciplines within distributed systems research area including Internet of Things, Big Data Analytics, Cloud Computing, and Edge Computing. He is one of the highly cited authors in computer science and software engineering worldwide (h-index=80+, g-index=250+, and 31000+ Google Scholar citations, h-index=60+ and 16000+ Scopus citations, and h-index=50+ and 10000+ Web of Science Citations).

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Forum 1-1

Zhengjun Zha

About the Speaker

BIO: Zheng-Jun Zha is currently a Full Professor with the School of Information Science and Technology, University of Science and Technology of China, and the Executive Director of the National Engineering Laboratory for Brain-Inspired Intelligence Technology and Application (NEL-BITA). He has authored or coauthored a series of publications on top journals and conferences in his research fields, which include multimedia analysis and understanding, computer vision, pattern recognition, and brain-inspired vision computing. Dr. Zha was a recipient of multiple paper awards from prestigious conferences, including the Best Paper Award and Best Student Paper Award in ACM Multimedia and the Distinguished Paper Award in AAAI. Zheng-Jun Zha received the B.E. and Ph.D. degrees from the University of Science and Technology of China, Hefei, China, in 2004 and 2009, respectively. He is currently a Full Professor with the School of Information Science and Technology, University of Science and Technology of China, and the Executive Director of the National Engineering Laboratory for Brain-Inspired Intelligence Technology and Application (NEL-BITA). He has authored or coauthored a series of publications on top journals and conferences in his research fields, which include multimedia analysis and understanding, computer vision, pattern recognition, and brain-inspired intelligence. Dr. Zha was a recipient of multiple paper awards from prestigious conferences, including the Best Paper Award and Best Student Paper Award in ACM Multimedia and the Distinguished Paper Award in AAAI. Zheng-Jun Zha received the B.E. and Ph.D. degrees from the University of Science and Technology of China, Hefei, China, in 2004 and 2009, respectively. He is currently a Full Professor with the School of Information Science and Technology, University of Science and Technology of China, and the Executive Director of the National Engineering Laboratory for Brain-Inspired Intelligence Technology and Application (NEL-BITA). He has authored or coauthored a series of publications on top journals and conferences in his research fields, which include multimedia analysis and understanding, computer vision, pattern recognition, and brain-inspired intelligence. Dr. Zha was a recipient of multiple paper awards from prestigious conferences, including the Best Paper Award and Best Student Paper Award in ACM Multimedia and the Distinguished Paper Award in AAAI.

National CyberSecurity Center International Congress

Forum 1-2

Lixiang Li

About the Speaker

BIO: Lixiang Li received the M.S. degree in circuit and system from Yanshan University, Qinhuangdao, China, in 2003, and the Ph.D. degree in signal and information processing from the Beijing University of Posts and Telecommunications, Beijing, China, in 2006. She is currently a professor with the School of CyberSpace Security, Beijing University of Posts and Telecommunications. She authored or coauthored more than 200 papers. Her research interest include compressive sensing, complex networks, swarm intelligence and network security. She is the Distinguished Professor of Major Talent Project of the Ministry of Education, and the winner of National Excellent Doctoral theses, New Century Excellent Talents in University, Henry Folk Education Foundation, Hong Kong Scholar Award, Beijing Higher Education Program for Young Talents, and Outstanding Youth Award of Chinese Association for Cryptology Research. As the principal investigator, she is currently leading one National Natural Science Foundation of China and one National Key Research and Development Program of China. She have completed over 30 national or provincial level scientific research projects. Currently, she is chairman of the Chaotic Secure Communication Professional Committee of the Chinese Association for Cryptologic Research and a committee member of the Science Popularization Committee of the Chinese Association for Artificial Intelligence.

National CyberSecurity Center International Congress

Forum 1-3

Haiming Jin

About the Speaker

BIO: Haiming Jin is currently an Associate Professor in the Department of Computer Science and Engineering at Shanghai Jiao Tong University, and the Deputy Director of the John Hopcroft Center for Computer Science. He is also a PhD Advisor and has been selected as a National Overseas High-Level Young Talent. Haiming Jin has long been engaged in research areas such as the Internet of Things (IoT), intelligent sensing, and wireless sensing. He has published over 60 academic papers in international journals such as TON, TMC, JSAC, and conferences like SenSys, INFOCOM, UbiComp, and MobiHoc. He serves as the Technical Program Committee Member of well-known international conferences, including INFOCOM, MobiHoc, and ICDCS. He has been named in the Stanford's list of world's top 2% scientists in 2022, 2023, and 2024. His honors include First Prize of the Science and Technology Award in Technical Invention Category from the Chinese Institute of Command and Control (Ranked 5th) in 2024, Best Paper Nomination at INFOCOM 2021, INFOCOM Distinguished TPC Member Awards (2020, 2022-2024), Outstanding Project Award of CCF-DiDi Gaia Collaborative Research Funds for Young Scholars, and the Best Presentation Award at Chinese-Japanese-Korean NSF A3 Foresight Program Forum.

National CyberSecurity Center International Congress

Forum 1-4

Haipeng Dai

About the Speaker

BIO: Haipeng Dai is an associate professor and doctoral supervisor of the Department of Computer Science and Technology in Nanjing University. He is an IEEE Senior Member, and a CCF Distinguished Member. He received ACM China Rising Star Award, IEEE TCSC Middle Career Researcher Award, and Excellent Scientific and Technological Member of Chinese Institute of Electronics. His research interests are mainly in the areas of Internet of Things, data mining, and mobile computing. He has published more than 200 papers (including 110+ CCF A papers), including papers in prestigious conferences such as NSDI, SIGMOD, VLDB, ICDE, KDD, WWW, EuroSys, ATC, UbiComp, and INFOCOM. He has won over 10 first-class international conference paper awards, including 4 CCF A/B conference paper awards. He serves as the project leader of the National Key R&D Program, chairing and participating in more than ten projects including General Projects of NSFC and the National Key R&D Program of China. He serves as Secretary General of ACM SIGCOMM China, Standing Committee Member of CCF Technical Committee of Internet of Things and CCF Technical Committee of Network and Data Communication. He served as chairs of nearly ten conferences including ISPA and HPCC. He serves as an Area Editor of Elsevier Computer Networks and an Associate Editor of IEEE Transactions on Industrial Informatics.

National CyberSecurity Center International Congress

Forum 1-5

Huan Zhou

About the Speaker

BIO: Huan Zhou, a professor at Northwestern Polytechnical University, is a Recipient of the National Natural Science Foundation of China Outstanding Youth Project. He is an IEEE Senior Member, a CCF Senior Member, and has been selected as one of the top 2% scientists in the world from 2022 to 2024. His main research areas include edge intelligence, connected vehicles, artificial intelligence, federated learning, and crowd intelligence computing. He has published over 100 high-level academic papers, including IEEE JSAC, TMC, TPDS, TSC, TWC, TCC, ICDCS, and other internationally renowned journals and important international conferences. He is currently serving as an editorial board member for the SCI journals EURISIP Journal on Wireless Communications and Networking and PLOS ONE; and have held academic positions such as TPC Chair for international conferences AIoTSys 2024, GameNets 2022, and BDTA 2020, and Track Chair for IEEE ICET. 2022/2023. He has won the Best Paper Award at the International Conference I-SPAN 2014/2018 and IEEE iSCI 2022, the Outstanding Doctoral Dissertation Award of the Chinese Society of Automation in 2016, and the First Prize of the Natural Science Award of the Chinese Society of Automation in 2023.

National CyberSecurity Center International Congress

Forum 1-6

Zhenhua Li

About the Speaker

BIO: Zhenhua Li is a Tenured Associate Professor at the School of Software, Tsinghua University, specializing in mobile networks, operating systems, and cloud computing. He has published more than 30 papers at prestigious conferences such as SIGCOMM, NSDI, OSDI, SOSP, and MobiCom. He has also published six cover papers in important domestic and international journals. He has been recognized with several awards, including the First Prize of the Ministry of Education's Natural Science Award, the Youth Science and Technology Award of the China Computer Federation (CCF), the Outstanding Doctoral Dissertation Award of the Chinese Association for Artificial Intelligence (CAAI), the Best Paper Award from IEEE Transactions on Cloud Computing'15, the Best Student Paper Award at MMSys'17, the Best Demo Award at MobiCom'19, the Best Student Paper Award at SIGCOMM'21 (first time in Asia), and the Best Community Paper Award at MobiCom'22.

National CyberSecurity Center International Congress

Forum 1-7

Feng Shen

About the Speaker

BIO: Dr. Feng Shen is a distinguished AI expert with a doctoral degree from University at Buffalo, SUNY in Computer Science, bringing extensive expertise from leading technology organizations including Google and Samsung. Currently serving as Chief AI Expert at China Eastern Airlines R&D Center, he specializes in advancing computational technologies across critical domains such as artificial intelligence, machine learning, programming languages, and distributed systems.

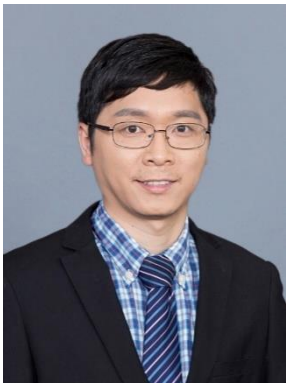
His research portfolio spans sophisticated technological frontiers, including static analysis, mobile security, and high-performance computing. Dr. Feng Shen uniquely bridges academic depth with industry innovation, establishing himself as a strategic technologist at the intersection of cutting-edge research and practical technological solutions.

National CyberSecurity Center International Congress

Forum 2-1

Shibo He

About the Speaker



BIO: Shibo He is a tenured full professor at the College of Control Science and Engineering at Zhejiang University, China. His research focuses on the Internet of Things (IoT) and big data analytics. He has published over 160 academic papers, including in internationally renowned journals such as PNAS, Nature Communications, IEEE Transactions on Networking, IEEE Journal on Selected Areas in Communications, IEEE Transactions on Mobile Computing, IEEE Transactions on Wireless Communications, as well as flagship conferences like ACM CCS, ACM MobiHoc, IEEE INFOCOM, and IEEE RTSS. He has authored two textbooks and two academic monographs. His research has been cited over 7,800 times by peers on Google Scholar, with more than 4,000 citations in the Web of Science Core Collection. He has received several prestigious awards, including the Mid-career Research Achievement Award from the IEEE Technical Committee on Scalable Computing, the Young Scientist Award from the Ministry of Education of China, the First Prize in Natural Science from the Ministry of Education of China, the Outstanding Young Researcher Award from the IEEE Communications Society in the Asia-Pacific region, and Best Paper Awards of six international conferences, including IEEE GlobeCom and IEEE TrustCom. He has also served as an editorial board member for five journals and as a Program Committee Chair/track Chair for conferences such as IEEE Globecom, i-SPAN, IEEE ICC, and ScalCom.

National CyberSecurity Center International Congress

Forum 2-2

Juan Luo

About the Speaker

BIO: Juan Luo is a Distinguished Yuelu Scholar Professor at Hunan University and the Deputy Dean of the College of Computer Science and Electronic Engineering. She was chosen for the "New Century Excellent Talents in University" program by the Ministry of Education and has been listed among the "World's Top 2% Scientists" by Stanford University. Additionally, she has been identified as a leading talent in scientific and technological innovation by Hunan Province. Prof. Luo is the recipient of the "Intelligent Foundation" Excellent Teacher Award, jointly granted by the Ministry of Education and Huawei, as well as the National Excellent Teacher Award in Basic Computer Education. She is in charge of national-level first-class majors and courses. With over 100 published papers, 20 authorized invention patents, and 10 software copyrights, she has received 7 provincial and ministerial-level awards,These encompass the Prize of the Hunan Provincial Technical Invention Award, the Prize of the Science and Technology Progress Award from the China Machinery Industry Federation, and the Prize of the National Teaching Achievement Award.

National CyberSecurity Center International Congress

Forum 2-3

Fang Dong

About the Speaker

BIO: Fang Dong, Ph.D., the chief young professor of Southeast University, doctoral supervisor, was selected into the National Youth Talent Program. He is currently the director of the Big Data Computing Center of Southeast University. He also severs as the co-chair of the ACM Nanjing Chapter, and the deputy director of the High Performance Computing Committee of the Jiangsu Computer Society. His main research directions are cloud computing and edge computing. He has been the principal investigator for several national-level projects such as the National Key Research and Development Program Project and the National Natural Science Foundation of China. Participated in the AMS large-scale physics experiment led by Professor Samuel C.C.Ting, a Nobel Prize winner in physics, and completed the construction of the Southeast University Big Data Center and the Southeast University AMS Scientific Data Processing Center (AMS-02 SOC). He has published more than 80 papers in important journals and conferences such as IEEE/ACM TON, IEEE TMC, IEEE JSAC, INFOCOM, WWW, ICNP, and ICDCS.

National CyberSecurity Center International Congress

Forum 2-4

Zhiren Fu

About the Speaker

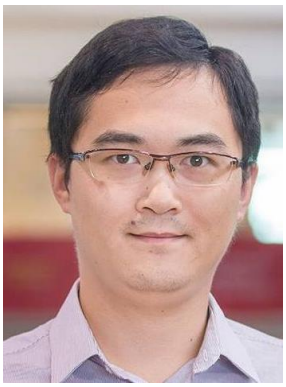
BIO: Zhiren Fu is currently the vice president of China Telecommunication Research Institute, the vice director of Computing Power Network Committee of China Communications Society, and the vice chairman of IEEE Shanghai Branch. He has long been engaged in information and communication technology innovation and R&D management. He has won the government special Allowance of The State Council, Shanghai Leading Talents, and the First Prize of Shanghai Science and Technology Progress Award, etc. His research interests include 5G communication technology, Internet of Things, artificial intelligence and big data, network architecture and intelligent technology, etc.

National CyberSecurity Center International Congress

Forum 2-5

Jianbing Ni

About the Speaker



BIO: Dr. Jianbing Ni is currently an assistant professor in the Department of Electrical and Computer Engineering at Queen's University, Canada, and the Tier-2 Canada Research Chair in Intelligent System Security and Privacy. His research interests include mobile network security, trustworthy artificial intelligence, cloud/edge computing security, and blockchain technology. He has published over 100 papers in IEEE Transactions and highly selected conferences. He received 2022 Best Paper Award from IEEE TMC, IEEE Vehicular Technology Society 2022 Early Career Award, 2023 IEEE TCSC Award for Excellence in Scalable Computing in Early Career Researchers, and IEEE ComSoc CISTC 2024 Early Career Award.

National CyberSecurity Center International Congress

Forum 2-6

Heng Wang

About the Speaker

BIO: Heng Wang is the director of Key Laboratory of Industrial Internet of Things and Networked Control, Ministry of Education. He is a Full Professor with the Chongqing University of Posts and Telecommunications. His current research interests include industrial Internet of Things, wireless sensor networks, clock synchronization, and real-time scheduling. He has published over 100 papers and holds over 80 patents. He is the author of the book “Theory and Methods of Parameter Estimation for Clock Synchronization in Industrial Internet of Things”. He received the National Labor Medal, the Excellent Scientist Award of Chinese Institute of Electronics, the Top Ten Science and Technology Youth Award of Chongqing, and the Science and Technology Progress Award of Chinese Association of Automation.

National CyberSecurity Center International Congress

Forum 2-7

Shuai Wang

About the Speaker

BIO: Dr. Shuai Wang is currently a professor with the School of Computer Science and Engineering, Southeast University, Nanjing, China. He received the B.S. and M.S. degrees from the Huazhong University of Science and Technology, China, in 2009 and 2012, respectively, and the PhD degree in the Department of Computer Science and Engineering at the University of Minnesota in 2017. His research interests include Internet of Things, and Cyber-Physical Systems. Shuai has published more than 100 papers in premium conferences/journals, e.g., MOBICOM, UBICOMP, INFOCOM, SIGKDD, ICDE, RTSS, ICNP, TON, TPDS, TOSN, and TWC. He won the outstanding paper award of RTSS'21.

National CyberSecurity Center International Congress

Forum 3-1

Wei Gong

About the Speaker

BIO: Wei Gong is a Professor of University of Science and Technology of China. His research group pioneered research on backscatter communications and networks. His works have led the world's efforts on developing general-purpose backscatter on a number of research fronts, including multi-stream, multi-hop, and multi-identification backscatter networks, all of which were published in flagship international conferences. He has published more than 180 papers, most of which appear in top-tier conferences and journals, e.g., ACM MobiCom, IEEE/ACM Transactions on Networking. He has won many best paper awards of international conferences, such as IEEE GlobeCom、ICCC、DCOSS. He has served as the Technical Program Committee for a number of prestigious conferences, including CoNEXT、MobiSys、PerCom、HotMobile. He is an Associate Editor of IEEE TMC, IEEE Network, and Tsinghua Science and Technology.

National CyberSecurity Center International Congress

Forum 3-2

Quan Chen

About the Speaker

BIO: Dr. Quan Chen is a professor at the department of computer science and engineering, Shanghai Jiao Tong University. His main research interest lies in computer systems, computer architectures and cloud computing. He has published over 100 peer-reviewed papers in leading venues related to these areas, including ASPLOS, ATC, ISCA, SC, ICS, TPDS, TC, et, al. He is the recipient of the NSFC career award. He is awarded the 2023 CCF-IEEE CS Youth Science and Technology Award, 2019 Alibaba DAMO Academy Young Fellow. He is on the editorial board of IEEE Transactions on Cloud Computing, Parallel Computing, JCST, and FCS.

National CyberSecurity Center International Congress

Forum 3-3

Wei Xi

About the Speaker

BIO: Wei Xi is a professor at the school of computer science and engineering at Xi'an Jiaotong University. He has been selected into the national youth talent project, currently serves as the deputy secretary-general of the ACM Xi'an chapter and the deputy director of the smart sensing center of national key laboratory of human-machine hybrid augmented intelligence. Prof. Xi has led over 10 national scientific research projects. He has published over 140 papers, and research achievement has been recognized with several prestigious awards, including the second prize of national science and technology progress in 2024, the first prize for science and technology research achievements in shaanxi higher education institutions in 2023, the first prize for natural science from the ministry of education in 2022, and the best paper award at the IEEE INFOCOM 2019.

National CyberSecurity Center International Congress

Forum 3-4

Chaocan Xiang

About the Speaker

BIO: Chaocan Xiang is a full professor at the College of Computer Science, Chongqing University, Chongqing, China. He received the BS and Ph.D. degrees in computer science and engineering from the Nanjing Institute of Communication Engineering, China, in 2009 and 2014, respectively. He studied at the Real-Time Computing Lab, the University of Michigan, Ann Arbor in 2017. His current research interests include crowd-sensing networks and IoT. He has published more than 40 research papers in important conferences and journals, such as ACM UbiComp, IEEE INFOCOM, IEEE/ACM TON, IEEE TMC, IEEE TPDS, IEEE T-ITS, and ACM TOSN.

National CyberSecurity Center International Congress

Forum 3-5

Hongzi Zhu

About the Speaker

BIO: Hongzi Zhu received his B.S. and M.E. degrees in computer science from Jilin University, China in 2001 and 2004, respectively. He received the PhD degree in computer science from Shanghai Jiao Tong University, in 2009. He was a post-doctoral fellow with the Department of Computer Science and Engineering, Hong Kong University of Science and Technology, and the Department of Electrical and Computer Engineering, University of Waterloo, in 2009 and 2010, respectively. He is a professor with the Department of Computer Science and Engineering, Shanghai Jiao Tong University. His research interests include Internet of Things and mobile computing. He received 2021 First Prize in CCF Natural Science Award and the Best Paper Award from ACM SenSys'24 and IEEE GLOBECOM'16. He is an associate editor for IEEE Transactions on Parallel and Distributed Systems, IEEE Transactions on Vehicular Technology and IEEE Internet of Things Journal.

National CyberSecurity Center International Congress

Forum 3-6

Xuan Liu

About the Speaker

BIO: Xuan Liu is currently a Full Professor of Computer Science at the College of Computer Science and Electronic Engineering, Hunan University, China. She received the Ph.D. degree from The Hong Kong Polytechnic University, Hong Kong, in 2015. Her research spans a broad scope including Internet of Things, RFID sensing, deep reinforcement learning, and edge intelligence. She has published more than 80 technique papers in top conferences such as Ubicomp, Infocom, IJCAI, AAAI, Mobihoc and top journals like TMC, TPDS, JSAC. She received the ECAI outstanding paper award in 2023 and the CCF TPCI best paper award in 2021.

National CyberSecurity Center International Congress

Forum 3-7

Chaoyang Chen

About the Speaker

BIO: Chaoyang Chen, a professor and doctoral supervisor, is a National Excellent Young Scientists Fund Awardee, the dean of the School of Information and Electrical Engineering/School of Artificial Intelligence, Hunan University of Science and Technology. And he is the director of the Hunan Provincial Key Laboratory of Complex System Intelligent Control and Operation and Maintenance, and a visiting researcher at the Chinese Academy of Sciences. He has undertaken more than 30 projects including the National Key R&D Program and the National Natural Science Foundation of China. He has published more than 110 papers in authoritative academic journals at home and abroad, including more than 80 SCI papers; applied for more than 50 invention patents, with 35 patents granted; published 2 monographs; won the Geneva International Invention Exhibition Gold Award, China's Industry-University-Research Cooperation Innovation Award, China's Invention and Entrepreneurship Achievement Award, China's Simulation Society Technology Innovation Award, Hunan Provincial Youth Science and Technology Award, etc. He is currently the vice chairman of the National University Artificial Intelligence and Big Data Innovation Alliance, the vice president of the China Energy Society, the deputy secretary-general of the Intelligent Detection and Motion Control Technology Professional Committee of the Chinese Association for Artificial Intelligence, the vice chairman of the Hunan Provincial Automation Society, and the vice chairman of the Hunan Provincial Instrumentation Society. He serves as an associate editor of five international journals including the SCI journal Expert Systems with Applications.

National CyberSecurity Center International Congress

IEEE HPCC/DSS/SmartCity/DependSys/ICESS/DIKW-2024

Presentation Program

Friday December 13, 2024 (China Standard Time CST, UTC+8)	
09:00-21:00	**National CyberSecurity Center International Congress Sign In**

Saturday December 14, 2024 (China Standard Time CST, UTC+8)	
08:30-09:30	**Opening Ceremony**
09:30-09:50	**Coffee Break**
09:50-10:30	**Keynote 1: Toward Scalable Generative AI via Mixture of Experts in Mobile Edge Networks** **Dusit Niyato**, Nanyang Technological University, Singapore
10:30-11:10	**Keynote 2: Cyberspace Security Situation Awareness: Techniques, Systems and Applications** **Yan Jia,** Peng Cheng Laboratory, China
11:10-11:50	**Keynote 3: Composite DP-unbias: Bounded and Unbiased Composite Differential Privacy** **Jinjun Chen**, Swinburne University of Technology, Australia

Sunday December 15, 2024 (China Standard Time CST, UTC+8)	
09:30-10:10	**Keynote 4: AIOT: From Digital-follow-up to Digital-Leadoff** **Yunhao Liu,** Tsinghua University, China
10:10-10:50	**Keynote 5: Adversarial Attacks Prevention for Deep Neural Networks** **Meikang Qiu**, Augusta University, USA
10:50-11:10	**Coffee Break**
11:10-11:50	**Keynote 6: Data and Resource Management Challenges for Digital Twins** **Rajiv Ranjan**, Newcastle University, United Kingdom

Saturday December 14, 2024 (China Standard Time CST, UTC+8)			
Room	**Room 1**	**Room 2**	**Room 3**
11:50-13:30	**Lunch Break**		
14:30-15:10	Forum-1: AI-enabled Cloud-Edge-End Collaborative Integration Technology Innovation (I)	Forum-3: AI and Industrial Internet of Things (I)	Forum-5: Key technologies of high performance Computing power Network(I)
15:10-15:30	**Coffee Break + Poster Session (I)**		
15:30-17:30	Forum-2: AI-enabled Cloud-Edge-End Collaborative Integration Technology Innovation (II)	Forum-4: AI and Industrial Internet of Things (II)	Forum-6: Key technologies of high performance Computing power Network (II)
18:00-19:30	**Banquet**		

Saturday December 14, 2024 (China Standard Time CST, UTC+8)							
Room	**Room 4**	**Room 5**	**Room 6**	**Room 7**	**Room 8**	**Room 9**	**Room 10**
11:50-13:30	**Lunch Break**						
13:30-15:10	HPCC-1: High Performance Computing and Applications Track (I)	HPCC-3: High Performance Computing and Applications Track (III)	HPCC-5: High Performance Computing and Applications Track (V)	HPCC-7: Parallel and Distributed Computing and Systems Track (II)	HPCC-9: Parallel and Distributed Computing and Systems Track (IV)	HPCC-11: Parallel and Distributed Computing and Systems Track (VI)	HPCC-13: Communications and Networking Track (I)
15:10-15:30	**Coffee Break + Poster Session (I)**						
15:30-17:30	HPCC-2: High Performance Computing and Applications Track (II)	HPCC-4: High Performance Computing and Applications Track (IV)	HPCC-6: Parallel and Distributed Computing and Systems Track (I)	HPCC-8: Parallel and Distributed Computing and Systems Track (III)	HPCC-10: Parallel and Distributed Computing and Systems Track (V)	HPCC-12: Parallel and Distributed Computing and Systems Track (VII)	HPCC-14: Communications and Networking Track (II)
18:00-19:30	**Banquet**						

Sunday December 15, 2024 (China Standard Time CST, UTC+8)									
Room	**Room 4**	**Room 5**	**Room 6**	**Room 7**	**Room 8**	**Room 9**	**Room 10**	**Room 11**	**Room 12**
11:50-13:30	**Lunch Break**								
13:30-15:10	HPCC-15: Communicati-ons and Networking Track (III)	HPCC-18: Communicati-ons and Networking Track (VI)	HPCC-21: Communicati-ons and Networking Track (IX)	HPCC-24: Computing Power Network (CPN) and Network for AI Computing (I)	HPCC Workshop-1	HPCC Workshop-4	DependSys-1	SmartCity-1: Smart City Systems Track (I)	DSS-1: Data Science and Data Applications Track (I)
15:10-15:30	**Coffee Break + Poster Session (II)**								
15:30-17:10	HPCC-16: Communicati-ons and Networking Track (IV)	HPCC-19: Communicati-ons and Networking Track (VII)	HPCC-22: Communicati-ons and Networking Track (X)	HPCC-25: Computing Power Network (CPN) and Network for AI Computing (II)	HPCC Workshop-2	HPCC Workshop-5	DIKW-1	SmartCity-2: Smart City Systems Track (II)	DSS-2: Data Processing Technology Track (II)
17:10-18:10	HPCC-17: Communicati-ons and Networking Track (V)	HPCC-20: Communicati-ons and Networking Track (VIII)	HPCC-23: Communicati-ons and Networking Track (XI)	ICESS-1	HPCC Workshop-3	HPCC Workshop-6	DIKW-2		

Forum

Forum-1&2: AI-enabled Cloud-Edge-End Collaborative Integration Technology Innovation
Chaired by: Bingyi Liu, Wuhan University of Technology, China; Enshu Wang, Wuhan University, China

1. *Zhengjun Zha, University of Science and Technology of China, China*
2. *Lixiang Li, Beijing University of Posts and Telecommunications, China*
3. *Haiming Jin, Shanghai Jiao Tong University, China*
4. *Haipeng Dai, Nanjing University, China*
5. *Huan Zhou, Northwestern Polytechnical University, China*
6. *Zhenhua Li, Tsinghua University, China*
7. *Feng Shen, China Eastern, China*

Forum-3&4: AI and Industrial Internet of Things
Chaired by: Lingzhi Yi, Zhongnan University of Economics and Law, China; Zhenkun Jin, Wuhan Business University, China

1. *Shibo He, Zhejiang University, China*
2. *Juan Luo, Hunan University, China*
3. *Fang Dong, Southeast University, China*
4. *Zhiren Fu, China Telecom Research Institute, China*
5. *Jianbing Ni, Queen's University, Canada*
6. *Heng Wang, Chongqing University of Posts and Telecommunications, China*
7. *Shuai Wang, Southeast University, China*

Forum-5&6: Key Technologies of High Performance Computing Power Network
Chaired by: Liang Zhong , China University of Geosciences, China; Zhengmin Kong, Wuhan University, China

1. *Wei Gong, University of Science and Technology of China, China*

2. *Quan Chen, Shanghai Jiao Tong University, China*

3. *Wei Xi, Xi'an Jiaotong University, China*

4. *Chaocan Xiang, Chongqing University, China*

5. *Hongzi Zhu, Shanghai Jiao Tong University, China*

6. *Xuan Liu, Hunan University, China*

7. *Chaoyang Chen, Hunan University of Science and Technology, China*

The HPCC 2024 Physical Presentation Program

HPCC-1: High Performance Computing and Applications Track (I)
Session Chair: Jinhua Cui, Huazhong University of Science and Technology, China

8. xCache: An Adaptive Compression Strategy for Metadata Cache
Yan Chen; Yongwei Wu

9. DTB: A Novel Reinforcement Learning-Assisted Data Management Strategy in Interlaced Magnetic Recording
Fangxing Yu; Chi Zhang; Menghan Li; Zhike Li; Shiqiang Nie; Weiguo Wu

10. Lightweight Autoencoder With Hierarchical Priors for Learned Image Compression
Junwei Zhou; Huang Qiao; Lei Zhou; Yanchao Yang; Jianwen Xiang

11. Efficient Distributed File System Offloading on SmartNIC
Yuhan Yang; Xingda Wei

12. Pseudo-Cache: Extending the Access Scope of Requests With Global Perspective in GPUs
Bingchao Li; Jizeng Wei; Yuchen Zhu

13. ELG: Emotion Recognition Convolutional Model Integrating Local and Global Facial Features
Jianping Xu; Haiqing Si; Haibo Wang; Songquan Li; Hanming Wang; Song Wei; Rongbo Zhu

HPCC-2: High Performance Computing and Applications Track (II)
Session Chair: Suning Chen, Huazhong University of Science and Technology, China

1. LatVision: Modeling and Predicting Persisting Tail Latency in SSDs
Linxiao Bai; Zhijie Jiang; Yuanliang Zhang; Haoran Liu; Xiangbing Huang; Wang Li; Bin Lin

2. Adaptive Domain Disentanglement and Meta-Contrastive Learning for Knowledge Transfer in Multi-Domain Recommendation
Shuxu Chen; Chengjie Zhou; Chao Che; Ziqi Wei; Zhaoqian Zhong

3. End-To-End Dense Video Captioning Model Based on Multimodal Feature Fusion
Shixin Peng; Ting Xiong; Jingying Chen

4. VCNN: A Compiler of CNNs Based on MLIR for Multi-Core Vector Accelerators
Xiaorong Chen; Cheng Li; Zhong Liu

5. HSAMM: A Hybrid-Strassen Algorithm-Based Asynchronous Architecture for Sparse Matrix Multiplication
Lingzhuang Zhang; Rongqing Hu; Hongrui Zhang; Yilong Jiang; Jun Ma; Anping He; Yinglong Li

6. Accelerating Virtual Machine File Systems With TimeFS
Jiaxuan Kang; Xiaojian Liao; Jiwu Shu

7. *A Window-Driven Compaction Mechanism in LSM-Tree-Based Key-Value Stores Through Near-Data Processing*
Hui Sun; Rui Jin; Jiaming Huang; Yinliang Yue; Xiao Qin

8. *Reinforcement Learning for Efficient Multi-Phase Resource Allocation*
Zhenfu Zhang; Yin Haiyan; Liudong Zuo; Xiao Zhang; Jianlin Zhu; Yuxuan Fan; Pan Lai

HPCC-3: High Performance Computing and Applications Track (III)
Session Chair: Weiwei Chen, Shanghai University, China

1. *Solution to MSHR Contention in Multi-Core Real-Time Systems Based on Software Hardware Collaboration*
Yuhan Teng; Chun Shi; Linlin Qin; Gang Wu

2. *Leveraging Resource-Aware Application-Level Checkpointing and RDMA for Fault Tolerance and Data Distribution in Malleable MPI Applications*
Jophin John; Michael Gerndt

3. *Computation Offloading Scheduling Using Game Abstraction in Ultra-Dense Networks*
Chun Wang; Ying Qiao; Luxiu Yin; Juan Luo

4. *Augur: Predictive and Adaptive Data Management in SSD-SMR Hybrid Storage System Using Reinforcement Learning*
Guanghui Zhou; Guohui Wang; Zhengang Chen; Zhiping Shi; Yong Guan

5. *UJPS: Urgent Job Priority Scheduling in Hadoop YARN*
Nana Du; Aiqin Hou; Chase Q. Wu; Weike Nie; Chang Zhang

6. *Optimizing the DFCPP Dataflow Runtime Library for Resource Utilization in NUMA Systems*
Tang LiXin; Qiuming Luo; Du Zheng

HPCC-4: High Performance Computing and Applications Track (IV)
Session Chair: Xiaoxuan Fan, Huazhong University of Science and Technology, China

1. *HIDC: Heterogeneous-ISA Dynamic Core*
Nirmal Kumar Boran; Prakhar Diwan; Meet Udeshi; Shubhankit Rathore; Virendra Singh

2. *FIFO: Fuzzy Cluster Identification and High-Dimensional Feature Clustering Optimization Based CPU Power Sampling Optimization*
Shaojun Feng; Zihan Zhang; Mingyuan Zhang; Zhaoyang Ma; Yichang Zhou; Rongyu Deng; Xianyu Wu; Jiaqing Zhong; Juan Chen

3. *AWSSS: Adaptive Weighted Statistical Space Smoothing for Regression With Imbalance Data*
Xiaoquan Yi; Haozhao Wang; Zhenlong Zhu; Wei Liu; Wenchao Xu; Ruixuan Li

4. *FAGRE: A Fast Graph Neural Network Redundancy Elimination System*
ZiQi Wang; ZiFeng Zhang

5. *KNFS: A High-Performance, Security-Enhanced NFS Based on eBPF*
Qicong Lin; Shiyi Li; Zhenye Huang; Chuxuan Xiao; Ruobin Wu; Wen Xia

6. *A Deep Learning-Based Thermal Prediction Approach for Energy Management in Cloud Data Centers*
Lijun Chen; Jie Li; Yuhui Deng; Hao Feng; Qinchun Ke

7. *StAR: Learning on Text-Attributed Graphs With Structure-Aware Rationales*
Zheyuan Zhang; Song Wang; Jingguo Ge; Yiming Xu; Yulei Wu; Jifei Wen; Chang Liu

HPCC-5: High Performance Computing and Applications Track (V)
Session Chair: Ruonan Zhao, Zhengzhou University, China

1. *CESS: A Cascade-Exit Semantic Segmentation Network for High Performance Inference*
Zheng Luo; Shengxin Dai; Bing Guo; Siyi Wang

2. *Attention Based Multi-Scale Feature Fusion for Point Cloud Completion*
Zesheng Yu; Nan Jiang; Zefeng Zou; Ziyi Li; Jing Zhang

3. *OBSD: On-The-Fly Block-Wise Sparse Distillation Accelerating SpGEMMs in DNN Applications*
Yanhuan Liu; Wenming Li; Xuejun An; Xiaochun Ye; Dongrui Fan

4. *Energy-Aware Task Mapping for Multi-Core Processor: A Machine Learning Based Approach*
Tao Xu; Yuhan Cao; Juan Chen; Yong Dong; Zhaoyang Ma

5. *OmniCache: An Unified Cache for Efficient Query Handling in LSM-Tree Based Key-Value Stores*
Yiyang Geng; Huai Xu; Fuxin Zhang; Yanyong Zhang

HPCC-6: Parallel and Distributed Computing and Systems Track (I)
Session Chair: Ziteng Wang, Huazhong University of Science and Technology, China

1. *AntFuzzer: A Grey-Box Fuzzing Framework for EOSIO Smart Contracts*
Jiahao He; JianFei Zhou; Peicheng Miao; YongJie Zhang; Ting Chen; Renkai Jiang; Shuwei Song; Tianxing Jiang

2. *An Adaptive Model Difference Clipping Method for Differentially Private Federated Learning*
Yiming Zhou; Juan Luo; Peng Sun; Bojun Jiang

3. *Revisiting Diversity Metrics and Coverage Criteria for Deep Neural Networks Quality Assessment From the Perspective of Test Adequacy*
Siyi Wang; Shengxin Dai; Bing Guo; Zheng Luo

4. *Adaptive Network Load Balancing at the End Host for Traffic Bursts in Data Centers*
Qingyu Shi; Huang Huang; Xiaocui Li; Chuang Li; Wenzhi Cao; Limei Liu

5. *Federated Learning With Autonomous Clients on Non-IID Data: A Group Collaboration Approach*
Yan Gong; Chuang Hu; Siohong Teng; Yili Gong; Dazhao Cheng

6. *Examining SSD-Correlated Failures Within Racks in Production Data Centers*
Gang Xian; Yusong Tan; Wenxiang Yang; Jie Yu

7. FIAless: Asynchronous Programming for Large-Scale Burst Requests in Serverless Computing
Chenyang Guan; Junjie Yin; Xiaofeng Wang

8. HPFIA: A High-Performance Fuzzy Inference Accelerator for Situation Assessment on Airborne Equipment
Lei Gao; Jingfei Jiang; Jinwei Xu

HPCC-7: Parallel and Distributed Computing and Systems (II)
Session Chair: Weizhen Han, Wuhan University of Technology, China

1. DRCFL: Representation Driven Head Clustering for Federated Learning on Edge Devices
Liyu Wang; Zheyu Yang; Bin Luo; Wenfeng Xu; Xiaodong Yu; Linlin Zhu; Yang Yang

2. Federated Multi-Objective Meta-Reinforcement Learning for Adaptive Edge Task Offloading
Xiaoyu Jia; Ting Wang; Xiao Du

3. swYAKL: A Data Parallel Runtime on Manycore Architecture
Yanwei Ye; Junshi Chen; Hong Qian; Kunxian Lin; Yuanhang Li; Hong An

4. Optimizing Inter-Stage Communication in Spark via Time-Varying Network Bandwidth Utilization
Changpeng Zhu; Wang Xi; Bo Han; Tian Zhou

5. FAdagrad: Adaptive Federated Learning With Differential Privacy
Yuling Luo; Ziyan Pan; Qiang Fu; Sheng Qin

6. PTMGS: A Cost-Optimal LLM Training Tasks Migration Method
Gangyi Luo; Chu Xu; Hao Zheng; Siyu He; Genning Zhang; Zhuzhong Qian

HPCC-8: Parallel and Distributed Computing and Systems (III)
Session Chair: Haiyong Shi, Wuhan University of Technology, China

1. O2O Logistics Customer Value Prediction With Periodic Asynchronous Vertical Federated Learning
Ruize Li; Shuai Wang; Baoshen Guo; Shuai Wang; Xiaolei Zhou; Wei Xi

2. Freshness-Aware Data Backup for Batteryless Sensing Systems
Hongyue Wang; Yunlong Yu; Wei Zhang; Songran Liu; Mingsong Lu; Nan Guan; Lei Ju

3. Leveraging Partitioning to Mitigate Concurrent Conflicts in Disaggregated Memory Key-Value Stores
Pan Li; Hao Hu; Hao Huang; Wen Xia; Lisha Qin; Shiyi Li

4. CPU Power Modeling Through Training Data Selection
Zekai Li; Jiaqing Zhong; Juan Chen

5. Deep Reinforcement Learning Enabled UAVs Coverage Path Planning in Dam Inspection
Yi Rong; Yingchi Mao; Haibin Xiao; Haowen Xu; Peishuang Zhao; Xiang Li; Xiaoming He

6. Incentive Mechanism for Mobile Crowdsensing With Social-Aware Users: A Two-Stage Stackelberg Game

Hai Yu; Peng Li; Qin Xu; Lei Nie; Haizhou Bao; Qin Liu

7. Fed-SCRP: Federated Multi-View Learning for Seller Claim Risk Prediction in Logistics Scenarios
Yao Lu; Shuai Wang; Hai Wang; Xiaohui Zhao; Shuai Wang; Xiaolei Zhou; Wei Gong

HPCC-9: Parallel and Distributed Computing and Systems (IV)
Session Chair: Yunzhi Xia, Huazhong University of Science and Technology, China

1. MO-DDPG: An Affinity and Anti-Affinity-Based Container Service Migration Strategy in MEC
Long Saiqin; Qingyong Deng; Zhang shenglin; Xu Yang; Qinghua Zuo; Zeping Wang

2. High-Speed Implementation of Lattice Enumeration With Discrete Pruning for Solving the SVP
Tianyu Xu; Jiageng Chen; Pei Li

3. rTPM: A Native Firmware-Based Trusted Platform Module for RISC-V
Xibin Wang; Jie Wang; Wang Juan

4. CrowdEVON: A Decentralized Mobile Crowdsensing Framework Based on the Public EVONChain Architecture
Jing Li; Tao Xie; Wei Wei

5. Diffindo: Accelerating Distributed GANs With Auxiliary Generators and Discriminators
Xiaoming Han; Liu BoAn; Dazhao Cheng

6. Asynchronous Complete Secret Sharing With Linear Communication Cost
Yuhan Li; Xiulong Liu; Gaowei Shi; Zhiyuan Zheng; Liyuan Ma; Hao Xu; Keqiu Li

HPCC-10: Parallel and Distributed Computing and Systems (V)
Session Chair: Xiao Tang, University of South China, China

1. XSema: A Novel Framework for Semantic Extraction of Cross-Chain Transactions
Ziye Zheng; Jiajing Wu; Dan Lin; Quanzhong Li; Na Ruan

2. Strong Session Serializability for Serverless Computing
Yinghao Zhao; Zhaolin Duan; Shihao Wu; Yanan Yang; Guowei Liu; Laiping Zhao

3. Picking Models for Heterogeneous Clients: A Server-Client Feature Contrastive Learning Design
Jialiang Wang; Chaoyue Niu; Fan Wu

4. Integrated Multi-Dimensional Prioritization and Adaptive Transmission for Function Scheduling in Serverless Edge Computing
Jingqiu Tian; Haoquan Qi; Yi Li; Chao Fang; Junye Qiao; Pengwei Wang

5. FedLOC: A Layer Output Based Compression Algorithm for Federated Learning Assessment
Peng Ouyang; Danyang Xiao; Jieying Zhou; Weigang Wu

6. Survey on Privacy-Preserving Techniques for Graph Neural Networks in Federated Learning Paradigm
Zhe Sun; Zhenyu Zhao; Rundong Shao; Yufu Zou; Chao Li; Nan Wei

7. Adaptive Configuration Selection for Multi-Model Inference Pipelines in Edge Computing
JinHao Sheng; Zhiqing Tang; Jianxiong Guo; Tian Wang

HPCC-11: Parallel and Distributed Computing and Systems (VI)
Session Chair: Zhenchang Xia, Wuhan University of Technology, China

1. Real-Time Surface Defect Detection With Compound Scaling Dynamic Neural Networks
Feixiang Han; Shanying Zhu; Yonghui Liang; Ruilin Jing

2. SkewCache: Skewed Layer-Wise Caching for Function Chains in Serverless Edge Computing
Xiaolin Guo; Fang Dong; Dian Shen; Zhaowu Huang; Haodong Tian

3. Joint Layer-Wise Caching and Request Routing for Serverless Inference Acceleration at the Edge
Zhaowu Huang; Fang Dong; Xiaolin Guo; Haodong Tian

4. PRO-HotStuff: A Practical and Robust Blockchain Consensus Mechanism
Jiahao Gan; Feilong Lin; Zhongyu Chen; Riheng Jia; Zhonglong Zheng; Minglu Li

5. A Profit-Driven Resource Management Scheme for Collaborative Edge-Cloud Computing
Jingyu Zhang; Zhennan Zhang; Shi Zhu; Fangliao Yang; Lailong Luo

HPCC-12: Parallel and Distributed Computing and Systems (VII)
Session Chair: Yunfei Zhen, Huazhong University of Science and Technology, China

1. CSFL: Enhancing Splitfed Learning With Clustering on Non-IID Data
GuangWei Xu; Jianbo Lu; Xinru Wang; Yang Lu; Mei Cao; Mengying Zhao

2. EM2FL: An Embedding Multimodal Fusion Federated Learning Approach to Optimize Privacy and Performance
Zhe Sun; Jiewei Wu; Chao Li; Chonghua Wang; Zhi Yang; Yufu Zou; Shutong Yang; Yaowei Huang

3. DoubleTrack: Fault-Tolerant Stateful Serverless Computing With Asynchronous Shared Logs
Shize Bian; Wei Wang; Yanan Yang; Laiping Zhao

4. Photia: Cross-Layer Cache Optimization for Function Startup in Serverless Computing
Zhaolin Duan; Yanan Yang; Laiping Zhao

5. Covert and Persistent Backdoor Attacks in Federated Learning-Powerd Autonomous Driving
Zhaoyuan Wang; Fan Yang; Luyao Peng; Jun Song

6. Provably Efficient Online Batch Scheduling for Deep Learning Inference
Bin Tang; Yulu Xie; Shi Chen; Siyuan Zhou; Baoliu Ye

7. Rendering Super Resolution Video Streaming Efficiently With In-Network Computing
Xiaolin Guo; Fang Dong; Dian Shen; Zhaowu Huang; Baijun Chen; Daheng Yin

HPCC-13: Communications and Networking Track (I)
Session Chair: Jing Wang, Huazhong University of Science and Technology, China

1. *A Gaussian Distribution-Based Truth Discovery Algorithm Under Local Differential Privacy*
Pengfei Zhang; Yibo Zhu; Ximeng Liu; Bin Wu; Li Sun; Shoufei Han; Xianjin Fang; Ji Zhang

2. *Task Allocation With Profit Maximization Under Geo-Indistinguishability via Q-Learning*
Pengfei Zhang; Yibo Zhu; Ximeng Liu; Bin Wu; Li Sun; Shoufei Han; Xianjin Fang; Ji Zhang

3. *Understanding and Optimizing Nonlinear Chirp Spread Spectrum Modulation in LoRa Networks*
Haoran Shi; Yichuan Yang; Xiuzhen Guo; Wenchao Meng; Chaojie Gu; Shibo He

4. *Towards Alarm Reduction in Intrusion Detection: A Recurrent Neural Network Approach*
Alexander Gödeke; Weizhi Meng; Yu Wang

5. *DTN Routing Algorithm in Temporary Shelter Based on Mobility Social Attributes and Message Destination Prediction*
Jianqun Cui; Mengnan Gao; Yanan Chang; Huiran Yan; Zhiyuan Ma

6. *Trajectory Planning of the Wireless-Powered UAV in Wireless Charging Network*
Yaolan Tian; Xinghao Huang; Wenjie Shi; Xiaoyu Wang; He Huang; Haipeng Dai

HPCC-14: Communications and Networking Track (II)
Session Chair: Qiankun Zhang, Huazhong University of Science and Technology, China

1. *RSLoc: An Accuracy Indoor Localization System Based on KAN Convolution Network*
Weixuan Yan; Can Tang; Fengrui Zhang; Licai Zhu; Yong Li; Hao Yang

2. *Cost-Efficient and Quality-Constrained Traffic Allocation in CDN: A Linear Programming Approach*
Xingze Wu; Rongxiang Huo; Haofei Yin; Yifei Zou; Yihong Ling; Guangzheng Lin; Ruomei Liu; Jian Tong; Dongxiao Yu

3. *Palos: Fair and Flexible Flow Scheduling on RNIC*
Zhenlong Ma; Fan Yang; Ning Kang; Jing Xu; Guojun Yuan; Zhan Wang; Ninghui Sun

4. *GAA-BD: Graph Adversarial Augmentation-Based Social Bot Detection*
Nan Hu; Le Cheng; Botao Wang; Jiwei Xu; Keke Tang; Peican Zhu

5. *An Improved WM Pattern Matching Algorithm Based on Cuckoo Filter*
Zhiyong Zha; Jiangyi Liu; Bin Luo; Wenfeng Xu; Mingyuan Ren; Shusheng Li; Menglan Hu; Kai Peng

6. *A Novel Routing Strategy Based on Effective Energy Consumption Perception in DTNs*
Tong Wang; Jianqun Cui; Yanan Chang; Feng Huang; Yi Yang

7. *Elastic Parameter Inversion Method of Pre-Stack Seismic Wave Based on Deep Learning*
Qinghua Wu; Xuesong Yan

8. *Iterative Region-Based Probabilistic Forwarding Algorithm for Traffic Engineering in LEO Satellite Networks*
Yan Dong; Biao Ouyang; Chenxin Wang; Menglan Hu; Kai Peng

HPCC-15: Communications and Networking Track (III)
Session Chair: Jiaoyan Chen, Wuhan University of Science and Technology, China

1. *CNN-Based Multivariate Time Series Classification for Health Monitoring in Wireless Body Area Networks*
Jingchao Xie; Mingxin Yang; Wei Li; Rui Hou

2. *Interest-Aware Social Bot Detection With Contrastive Hard Sample Mining*
Huailiang Peng; Yujun Zhang; Hao Sun; Wei Hao; Qiong Dai

3. *Dependent Task Offloading and Resource Allocation in Satellite Edge Computing Networks*
Yuhang Liu; Liang Zhao; Ammar Hawbani; Yunhe Sun

4. *HeavyCuckoo: A Flexible and Fast Sketch for Heavy Hitter Dection in High-Speed Networks*
Chao Cui; He Huang; Zhaojie Wang; Yu-e Sun; Hanwen Zhang

5. *Towards Seamless Single Receiver Backscatter With Uncontrolled Ambient OFDM WiFi*
Chenhong Cao; Wei Xi; Shuai Wang; Wei Gong

6. *CAREFUL: A Secure and Privacy-Preserving Deletion Notification Distribution Protocol*
Qipeng Song; Xin Deng; Yue Li; Zhihao Dong; Xingyue Zhu; Hui Li

HPCC-16: Communications and Networking Track (IV)
Session Chair: Yongling Huang, Huazhong University of Science and Technology, China

1. *dotPS: Disorder Tolerant Load Balancing Scheme for Datacenter Network*
Chenzhao Huang; Xiaobin Tan; Shenzhi Yuan; Ning Xu; Weifeng Wang; Shiyin Zhu

2. *Design and Optimization of Asymmetric Encryption Scheme Based on Blockchain and Its Application in Privacy Protection of Internet of Vehicles*
Wei Liao; Lansheng Han; Peng Chen

3. *GenHMD: Enhancing Hateful Meme Detection With Generated Rationale From Multimodal Large Language Models*
Haimei Qin; Chaodong Tong; Lei Jiang; Zhiwei Yang

4. *Data Synchronization Optimization Algorithm for the Digital Twin With Grouped Load Balance and Mask-Assisted Power Control*
Junping Gao; Qihua Hu; Hongju Cheng

5. *Comparative Analysis and Reputation Improvement Mechanism of Blockchain in Social Networks*
Zhu Zhu; Yuduo Liu; Zhaohong Guan; Fangfei Zhang; Dapeng Qu

6. *MFRD: A Novel Multi-Criteria Fusion Routing Decision Making Algorithm in Mobile Opportunistic Networks*
Yanan Chang; Demin Peng; Xingzhuo Duan; Jianqun Cui; Xing Tang

HPCC-17: Communications and Networking Track (V)
Session Chair: Xingshi Wan, Huazhong University of Science and Technology, China

1. *Dynamic Task Offloading and Resource Allocation in Vehicle Edge Computing and Networks: A Graph Attention-Based Deep Reinforcement Learning Approach*
Baolin Qin; Ang He; Heng Pan; Xueming Si; Yueyue Dai; Xiaoyan Huang; Yan Zhang

2. *Easy-Sharing: A Personalized Privacy Diffusion Strategy Generation Method Based on Risk-Return Trade-Off*
Ben Niu; Qifan Yang; Likun Zhang; Jin Cao; Qian Yang

3. *An ABLRS-Based Mutual Authentication Scheme for IIoT*
Hongrui Xue

4. *Speed is Not All You Need When Fuzzing Stateful Network Servers*
Qian Liu; Lei Zhou; Xu Zhou; Yuan Wei; Danjun Liu

HPCC-18: Communications and Networking Track (VI)
Session Chair: Wei Xiang, Central China Normal University, China

1. *RSSI-Based Energy Efficient Underwater Localization Technique for AUVs*
Hassan Raza Naqvi; Tahir Muhammad; Naeem Raza; Mohsin Raza Jafri; Muhammad Faizan Khan

2. *Range IP Oriented Fast Search Algorithm for IPSec Gateway Security Policies*
Bo Jin; Xingwei Cai; Yuhao Liu; Nannan Xia; Zhiyong Zha; Yongchao Shen; Kai Peng

3. *On Improved Efficiency of Zero-Trust Tunnel for Inter-Microservices Communication*
Lei Zhang; Jingguo Ge; Yulei Wu; Jifei Wen; Yuepeng E

4. *MultiQoE: Measuring QoE of DASH Video From Encrypted Traffic With Multimodal Features*
Peng Xie; Xiaobin Tan; Hao Wang; Mingyu Sun; Quan Zheng; Feng Yang

5. *Multi-View Tri-Alignment Multi-Expert for Multi-Domain Fake News Detection*
Jin Zhenkun; Ruolei Yi; Kai Cui; Xinlei Zhou; Jiaqi Ma

6. *CombNE: A Combined Network Emulator Based Programmable Switch*
Xinhang Wang; Lizhuang Tan; Huiling Shi; Wei Zhang

HPCC-19: Communications and Networking Track (VII)
Session Chair: Yixuan Geng, Huazhong University of Science and Technology, China

1. *TMGAN: A GAN-Based Traffic Morphing Defense Against Website Fingerprinting*
Shukan Huang; Junchao Xiao; Gaopeng Gou; Gang Xiong; Zhen Li; Wei Xia

2. *A Privacy-Preserving Navigation Scheme With Malicious Data Detection in VANETs*
DongLiang Fei

3. *Learning to Hash With Long-Short-Term Graph Neural Networks for Efficient Social Recommendation*
Lin Liu; Boyang Liu; Chenxu Wang

4. *MHFuzz: Advancing Heap Vulnerability Detection Through Phased Fuzzing Strategies*
Zeng Yuxiang; MA Nan; Zhongyuan Qin

5. *Chinese Medical Continual Named Entity Recognition Based on Continual Learning and Knowledge Distillation*
Yuxiang Chen; Zhiping Dan; Zhun Gao; Hongzhi Zhang; Zhiyuan Liu; Ji Lu

6. *Tunnel User Behavior Identification Based on Self-Supervised Pre-Training*
Lingyun Ye; Zhishen Zhu; Gaopeng Gou; Gang Xiong; Mingxin Cui

HPCC-20: Communications and Networking Track (VIII)
Session Chair: Cannian Zou, Huazhong University of Science and Technology, China

1. *Joint Multi-Modal Graph Structure and Representation Learning for Fake News Detection*
Hao Jin; Jiahuan Lu; Fei Wu; Ji Yimu; Xiaoyuan Jing

2. *Blending Interest Flooding Attacks Detection in Named Data Networking*
Danni Wang; Wei Li; Rui Hou

3. *WCL_SFR: Window-Based Contrastive Learning for Signal Feature Reconstruction*
Yangyang Wang; Xing Yang; Hua Mu; Zhen yu Liang; Lei Zuo; Zhen Hong; Zhenyu Wen

4. *A Privacy-Preserving Federated Learning Framework With Byzantine Robustness*
Xibo Zhang; Gang Shen

HPCC-21: Communications and Networking Track (IX)
Session Chair: Zhi Li, Huazhong University of Science and Technology, China

1. *Recommendation Unlearning With Dynamic Sampling and Interest Boundary Perception*
Jianfang Wang; Menghao Liang; Guangwen Chai

2. *UM-Explainer: An Explainability Method for Unsupervised Models Based on Factual and Counterfactual Reasoning*
Jing Tan; Qiyu Li; Linlin Su; Huijiang Wang; Jinyan Wang

3. *Energy-Aware Computation Offloading and Routing Strategy for Multi-UAV-Assisted Mobile Edge Computing*
Jinjiao Huang; Linpo Lu; Na Lin; Tianxiong Wu; Zhijiang Wang

4. *Incremental Label Distribution Learning With Scalable Graph Convolutional Networks*
Ziqi Jia; Xiaoyang Qu; Chenghao Liu; Jianzong Wang

5. *6DoubleTree: IPv6 Address Prediction Algorithm Based on Double Space Tree*
Mingyue Ren; Liancheng Zhang; Haojie Zhu; Shunlong Hao; Yi Guo; Hongtao Zhang

6. *DP-CAKA: Defending Local Model Poisoning Attacks Based on Differential Privacy and Complex Acc-Based Multi-Krum Algorithm in Distributed Federated Learning*

Lijuan Huo; Libing Wu; Jiaqi Feng; Xing Fan; Enshu Wang; Xinchen Li

HPCC-22: Communications and Networking Track (X)
Session Chair: Zecan Yang, Huazhong University of Science and Technology, China

1. *BioWarp: An SDN Failure Recovery Scheme Based on Bio-Mimetic Optimization and Weighted-Cost Multi-Path Routing*

Zhongyuan Qin; Shiyuan Feng; Zhao; Tao Li; Hu Aiqun

2. *FedBA: A Traffic Prediction Approach Based on Bi-LSTM and Federated Learning*

ZiHang Dong; Yuning Zuo

3. *Custominer: Mining Customized Access Control Policies Under User-Defined Constraints*

Xiao Wang; Yunchuan Guo; Mingjie Yu; Ziyan Zhou; Liang Fang; Fenghua Li

4. *High- and Low-Order Transaction Aggregation Graph Network for Ethereum Phishing Detection*

Jianrong Wang; Mingyu Li; Dengcheng Hu; Xiulong Liu; Qi Li; Xuewei Li; Keqiu Li

5. *Stochastic Game for Collaborative Defense in Multi-Domain Networks: A MAPPO Approach*

Yaobing Xu; Yunchuan Guo; Wenlong Kou; Ziyan Zhou; Huimei Liao; Fenghua Li

6. *ADCC: AoI-Aware Decentralized Congestion Control in Cooperative Perception System*

Ke Li; Zhiyuan Zhao; Haojun Huang; Shouxi Luo; Huanlai Xing; Qiang Yang

HPCC-23: Communications and Networking Track (XI)
Session Chair: Honglu Zhao, Huazhong University of Science and Technology, China

1. *ScCGKA: Continuous Group Key Agreement With Smart Contract*

Zhiqian Cai; Changsong Jiang; ChunXiang Xu; Xinfeng Dong

2. *A High-Performance IPv6 Fragment Evasion Threat Detection Method Based on eBPF and XDP*

Bin Lin; Liancheng Zhang; Yi Guo; Hongtao Zhang; Haojie Zhu; Qingtao Wang

3. *Dynamic Cost Intelligent Routing Algorithm for Heterogeneous Communication Networks*

Yuqian Chen; Licheng Zhang; Jingwen Wang; Hairui Lin; Wenhao Ma; Xingang Liu

4. *UWB Weak Signal Detection and Recovery Algorithm Based on Power Spectrum Entropy and Improved Stochastic Resonance*

Ding Ding; Yanyun Xu

5. *Efficient Disaggregated Memory Eviction With Glitter*

Linxuan Zhong, Wenxin Li, Yulong Li, Jiawen Shen, Song Zhang, Wenyu Qu, Yitao Hu

HPCC-24: Computing Power Network (CPN) and Network for AI Computing Track (I)
Session Chair: Chunfen Fu, Huazhong University of Science and Technology, China

1. *Efficient Secure Inference Scheme for Large Neural Networks*

Lin Chen; Yiwei Yang; Xin Wang; Yinbin Miao; Zhihong Liang; Chao Hong

2. Dynamic Resource Management for Microservices Based on Deep Reinforcement Learning
Huanxing Zhu; Boyi Tang; Yijun Mo; Zhengyu Chen

3. CRAE: Blockchain-Based Computing Resource Authenticity Evaluation in Computing Aware Network
Zixuan Lei; Bo Lei; Shuai Gao; Cheng Chi; Xindi Hou; Minghui Xi

4. Profit-Aware Computing Server Clustering and Task Scheduling in the Computing Power Network
Xiaoyao Huang; Remington R. Liu; Jie Wu; Baoxian Zhang

5. Efficient Tensor-Based Fine-Tuning for Subject-Driven Image Editing on Diffusion Models
Huazhong Liu; Jiawen Luo; Jihong Ding; Pengxu Chen; Ren Lei

6. WQEFC: A Scalable and Low-Latency RDMA Messages Scheduler for Mixed Messages
Yaozhen Li, Yuxuan Du, Lide Suo, Xiancheng Meng, Yiren Pang, Wenxin Li, Keqiu Li, Yitao Hu

HPCC-25: Computing Power Network (CPN) and Network for AI Computing Track (II)
Session Chair: Junjie Su, Huazhong University of Science and Technology, China

1. FedReverse: Multiparty Reversible Deep Neural Network Watermarking
Junlong Mao; Huiyi Tang; Yi Zhang; Fengxia Liu; Hongliang He; Shanxiang Lyu

2. MBDC: Low Latency and Cost-Effective Data Center Network Architecture
Qian Yu; Jiguo Yu; Guijuan Wang; Anming Dong; Li Zhang; Mengjie Lv

3. MG2GS: Optimizing Resource Efficiency for AI Training With Cross-MEC Job Scheduling
Zeming Gao; Ye Tian; Yannan Hu; Jiahui Hu; Gong Xiangyang; Wendong Wang

4. Enabling Source Hosts to Precisely Select Paths via ECMP Hash Linearity in Data Center Networks
Boyang Zhou; Chunming Wu; Qiang Yang

5. AdaptPerf: Adaptive Measurement for Computing Power of Heterogeneous Devices Based on NAS
Chengxu Han; Zhuo Li

The HPCC Workshop 2024 Physical Presentation Program

HPCC Workshop-1: AI Enabled Intelligent Transportation Systems (I)
Session Chair: Debin Liu, Zhengzhou University, China

1. *Research on On-Ramp Merging Decision-Making for Autonomous Vehicles Based on the Dueling-DQN Algorithm*
Xinyu Liu; Kai Gao; Hongfei Hu; Linhong Liu; Ronghua Du

2. *Battery Pack SOC Estimation Based on Representative Cells and Support Vector Regression*
Yanzhong Liu; Yuan Chen

3. *Resilient Mitigation Strategy for Networked DC Microgrids Under Uncertainties*
Jieqi Rong; Weirong Liu; Fu Jiang; Jian Chen; Yingze Yang

4. *An Optimized Ensemble Model With Feature Selection for Network Intrusion Detection in the Internet of Vehicles (IoV)*
Afaq Ahmed; Irshad Ullah; Tahir Hussain

5. *Distributed Data-Enabled Predictive Control for Vehicle Platoon With Model Uncertainties*
Bin Chen; Wei Liu; Rui Zhang; Guo He; Haoyang Yan; Kai Gao

6. *Core Temperature-Aware Optimal Preheating Strategy for Lithium-Ion Battery*
Zhiwu Huang; Xi Yan; Yongjie Liu; Kaifu Guan; Lisen Yan; Fei Li

HPCC Workshop-2: AI Enabled Intelligent Transportation Systems (II)
Session Chair: Shengjie Ye, China State Shipbuilding Corporation Limited, China

1. *Shift Window Transformer for CSI Feedback in Massive MIMO*
Zhengfa Zhu; Heng Li; Shuo Li; Feng Zhou; Shouqing Liu

2. *State-Of-Charge Estimation of Li-Ion Battery Packs in Electric Vehicles: An Inverse Design*
I-Ju Chiu

3. *Twin Delayed Deep Deterministic Policy Gradient-Based Battery Cooling Strategy for Electric Vehicles*
Weirong Liu; Pengfei Yao; Lijun Duan; Yue Wu; Heng Li

4. *Lightweight Multi-Scale Convolution Neural Networks for CSI Feedback in Massive MIMO*
Zhengfa Zhu; Shouqing Liu; Heng Li

5. *Enhanced Spatio-Temporal Autoencoder With Multi-Head Attention for Voltage Anomaly Detection in Electric Vehicle Battery*
Muaaz Bin Kaleem; Heng Li; Muhammad Usman Saeed; Zhijun Liu

6. *Cooperative Cell Balancing for Super Capacitors With Reinforcement Learning*
Zhiwu Huang; Yundong Song; Yulin Zhang; Yunsheng Fan; Shilong Zhuo; Taozhen Chang; Heng Li

HPCC Workshop-3: AI Enabled Intelligent Transportation Systems (III)
Session Chair: Jiuzhen Zeng, Huazhong University of Science and Technology, China

1. *Reinforcement Learning-Driven Relay Selection for Enhanced V2V Communication in Vehicle Platoons*
Xiaoyong Zhang; Meng Liu; Xin Gu; Jun Peng; Heng Li; Zhiwu Huang; Weirong Liu; Fu Jiang

2. *A Framework for Evaluating the Resilience of Transportation Networks: An Optimization Perspective*
Kun Li; Chen Mu

3. *Low-Carbon Energy Sharing for Multi-Energy Microgrid Using Cooperative Reinforcement Learning*
Ziling Tang; Jun Peng; Fu Jiang; Jie Chen; Heng Li; Weirong Liu; Yue Wu

4. *A Novel Lithium-Ion Battery State of Health Estimation Model: Integrating Transfer Learning With Retentive Network*
Yunhao Wang; Xiaoyong Zhang; Heng Li; Weirong Liu; Yu Guo Gu

HPCC Workshop-4: AI Enabled Intelligent Transportation Systems (IV)
Session Chair: Minmin Cheng, China Nuclear Power Operation Technology Corporation, LTD., China

1. *Fine-Grained and Multi-Stage Fast Charging Optimization of Lithium-Ion Batteries Based on TD3 Algorithm*
Jun Peng; Yongting Liu; Yue Wu; Yongcai Ma; Hongjiang He; Fu Jiang

2. *GAN Based Resilience Recovery for False Data Injection Attack in Smart Grids*
Yihan Tang; Yingze Yang; Rui Zhang; Wanwan Ren; Jieqi Rong; Heng Li; Hui Wu

3. *Cell Voltage Estimation for Supercapacitor Systems With Terminal Voltage Measurement*
Heng Li; Yi Zhan; Su Kelong; Yue Wu

4. *A Foundation Model for State of Health Prediction of Lithium-Ion Battery in Electric Vehicles*
Chenyuan Liu; Xiaoyang Chen; Zeyu Zhu; Yunhao Wang; Yunsheng Fan; Heng Li

5. *State-Of-Charge Estimation of Reconfigurable Lithium-Ion Batteries Based on Nonlinear Switched System*
Yingze Yang; Yifei Sun; Yiquan Zhou; Yunsheng Fan; Heng Li

6. *Optimal Feature Extraction and State of Health Estimation for Incremental Capacity Curves Based on Bayesian Optimization*
Heng Li; Huihui Yang; Yunsheng Fan; XiaoLong Chen; Yue Wu

HPCC Workshop-5: AI Enabled Intelligent Transportation Systems (V)
Session Chair: Jing Han, Wuhan Business University, China

1. *An Energy Management Approach for Distributed Control Systems: Implementing Predictive Set-Point Modulation With Supercapacitors and Parallel DC-DC Converters*
Dilinaizhaer Maimaitiyusufu; Heng Li; Yue Wu; Jiali Deng

2. *RVF3D: ROI-Driven Vision Transformer Fusion for Multi-Modal 3D Object Detection in Autonomous Vehicles*
Husnain Mushtaq; Xiaoheng Deng; Mubashir Ali; Irshad Ullah; Adeel Ahmed Abbasi

3. *Cooperative Control for Modular DC-DC Converters of Supercapacitor Energy Storage Systems*
Jiali Deng; Dilinaizhaer Maimaitiyusufu; Heng Li

4. Efficient Multimodal 3D Object Detection via Dynamic Feature Fusion of LiDAR and Camera Data
Muhammad Uzair; Jian Dong; Ronghua Shi; Chengwang Xiao; Husnain Mushtaq

5. Comprehensive Analysis of Computer Network Threats and Security Measures
Muhammad Uzair; Zafran Waheed; Irshad Ullah; Adeel Ahmed Abbasi; Husnain Mushtaq

6. Spatially-Guided Chunk-Wise Reweighting Transformer for 3D Object Detection in Autonomous Vehicles
Husnain Mushtaq; Muhammad Uzair; Irshad Ullah; Adeel Ahmed Abbasi

HPCC Workshop-6: AI Enabled Intelligent Transportation Systems (VI)
Session Chair: Ning Zhang, Huazhong University of Science and Technology, China

1. Efficient-MobileNet: A Feature Fusion Approach for Vehicle Driver Behavior Detection and Classification
Muhammad Irfan Saeed; Jinfang Sheng; Muhammad Usman Saeed

2. Imitation Reinforcement Learning Attitude Controller for Fixed-Wing UAVs
Ziyang Yue

3. Lateral Control of Autonomous Vehicles Using Barrier Lyapunov Function
Zhiwu Huang; Liuye Shao; Bin Chen; Yue Wu; Boyu Shu; Heng Li

4. Battery Fault Detection Using Enhanced Spatial-Temporal Features for Electric Vehicles
Weirong Liu; Lijun Duan; Rui Zhang; Pengfei Yao; Heng Li

The DSS 2024 Physical Presentation Program

DSS-1: Data Science / Data Applications (I)
Session Chair: Shuilong Wang, Huazhong University of Science and Technology, China

1. *Secure Transmission Over Wireless Multiple Access Wiretap Channels by Constellation Rotation and Superposition*
Jiawei Zhao; Hongliang He

2. *A Mobile Terminal Position Protection Method Based on Hilbert Curve*
Chundong Wang; BoYu Zhang; Yong-xin Zhao; Liyang Zhao

3. *A Taxonomy for Evaluating Data Quality in Data Integration - Towards a Standardized Data Quality Management*
Jan-Philipp Awick; Lars Steffens; Michael Karl; Jorge Marx-Gomez

4. *A Certificate-Based Data Integrity Batch Auditing Scheme in Cloud Storage*
Ting Zhu; Chenxu Gao; Limin Shen

5. *Towards Sensor Level Secured Agriculture 4.0 Using Light-Weight Block Cipher*
Khadija Fareed; Muhammad Faizan Khan; Ateeq Ur Rehman

DSS-2: Data Processing Technology (I)
Session Chair: Jiayang Sun, Huazhong University of Science and Technology, China

1. *Multi-Modal Image Reflection Removal With Prior Knowledge of Reflection Structure Inconsistency*
Yifan Liu; Ke Luo; Jincai Chen

2. *AR-Assisted In-Situ Thermomechanical Testing System for Superalloys*
Zixin Li; Xuecheng Zhang; Bin Zhang; Wenchao Meng; Shibo He; Chaojie Gu

3. *A Novel Transformer Architecture for Time Series Forecasting: Integrating DP Block and Sequence Slicing Attention*
Jilong Lan; Chunna Zhao

4. *Multi-Stage Evolutionary Model Merging With Meta Data Driven Curriculum Learning for Sentiment-Specialized Large Language Modeling*
Keito Inoshita; Xiaokang Zhou; Akira Kawai

The SmartCity 2024 Physical Presentation Program

SmartCity-1: Smart City Systems (I)
Session Chair: Jinru Wu, Wuhan Business University, China

1. *MBSE Net: Addressing Data Scarcity and Model Interpretability in Predicting UHPC Performance for Bridge Infrastructure*
Zefeng Zou; Nan Jiang; Zesheng Yu; Ziyi Li; Jing Zhang; Yufei Wang

2. *Multi-Step Prioritized Deep Reinforcement Learning Method for Home Energy Management*
Xiaoqian Wu; Yiwen Zhang; Lulu Chen; Xiaofeng Luo; Huaiguang Jiang; Jun-Hui Ou

3. *CHASM: Cooperative MARL-Based Approach for Efficient V2V Communication in CDSs*
Bingyi Liu; Haoxiang Zhao; Enshu Wang; Weizhen Han; Zhuangzhuang Zhang; Libing Wu

4. *GraphKAN: An Efficient Graph Kolmogorov Arnold Networks for Traffic Forecasting*
Wenzhu Zhao; Guan Yuan; Rui Bing; Xiao Liu; Guixian Zhang

5. *Optimizing Operation of Automated Waste Collection Systems in Smart Communities*
Zaki Masood; Carmen Cheh; Zhen Wei Ng; Binbin Chen; Xin Lou; David Yau

6. *MetaCo-Distillation: A Robust Collaborative Distillation Framework for Multivariate Knowledge*
JiaNing Wang; Jiqiang Liu; Tao Zhang; Jian Wang; Xiangyun Tang; Geng Sun; Zhaohui Yang; Zhu Han; Dusit Niyato

SmartCity-2: Data Processing Technology (I)
Session Chair: Qing Shen, Wuhan Business University, China

1. *A Rotating Object Detection Method for Greenhouses in Remote Sensing Images*
Can Wang; Kun Liu; Benli Zou; Meishu Li; Hao Yuan; Qinghao Peng

2. *LYN: Leveraging Pyramid Structures and Aggregating Attention for General Time Series Classification Tasks*
Guanlin Chen; Shijie Li; Haoqin Li; Huaiguang Jiang; Yahui Jia; Ye Liu

3. *Dual-Branch Teacher Assistant-Based Network for Heterogeneous Knowledge Distillation*
Lulu Chen; Shijie Li; Xiaoqian Wu; Xiaofeng Luo; Huaiguang Jiang; Yahui Jia

4. *INVNET Inverted TimesNet for Multivariate Time Series Forecasting*
J. Hu; Shijie Li

5. *Semantically Encoding Enhancements for Unsupervised Color Feature Separation*
Weijian Li; Shijie Li; Huaiguang Jiang

The DependSys 2024 Physical Presentation Program

DependSys-1: Dependability and Security Fundamentals and Technologies (I)
Session Chair: Yuanyuan He, Huazhong University of Science and Technology, China

1. *Node Reputation Value Optimization Method Combining Recommendation Codes and Quantum Random Numbers in Blockchain*
Yan Wang

2. *VulnSlicer: A Java Vulnerability Analysis Tool Based on Vulnerability Slice*
ChaoHao Liao; Shihe Zhang; RenHua Liu

3. *Unsupervised Point Cloud Segmentation for Power Corridor Line Inspection*
Bo Peng; Xueping Xie; Yonghua Wu

4. *The Optimal Design of a Rotor System With Elastic Ring Environments*
Yihang Shi; Zhongyu Yang; Yinli Feng; Di Liu

5. *Leak-Detector: An Improved Route Leak Detection Method*
Haoyang Gao; Ning Li; Yuancheng Xie

The ICESS 2024 Physical Presentation Program

ICESS-1: Design Methodology & Tools / Emerging Embedded Applications & Interdisciplinary (I)
Session Chair: Zhen Li, Huazhong University of Science and Technology, China

1. *Sleptsov Net Based Reliable Embedded System Design on Microcontrollers and FPGAs*
Ruiyao XU; Si Zhang; Dmitry A. Zaitsev; Ding Liu

2. *GPMAPPO: Collaborative SAR Optimization of Human-UAV in Post-Disaster Scenarios*
Na Lin; Yue Jin; Wenjia Zhang

3. *A Soft-Hard Collaborative CNN Inference Acceleration System Based on NP Cores of DPU*
Li Shicheng; Xin Yao; Renhai Chen; Wenjie Feng; Gong Zhang

The DIKW 2024 Physical Presentation Program

DIKW-1: 2024 IEEE International Conference on Data, Information, Knowledge and Wisdom (DIKW) (I)
Session Chair: Zaiwen Feng, Huazhong Agricultural University, China

1. The Convergence of Dynamic Routing Between Capsules
Daoyuan Ye

2. Few-Shot Named Entity Recognition Based on Self-Descriptive Network and Knowledge Graph Enhancer
Yongze Hou; Zili Zhou; Yanna Wang; Zhenchao Liu

3. Multi-Level and Multi-Dimensional Assessment for High-Value Data Elements
Gao Qiang

4. Blockchain Access Control Based on Continuous Trust Evaluation
Jia Liu; Chu Li; Jieping Shen; Wenxiao Sun; Jianjun Chen; Yucong Duan

5. Blockchain Transaction Monitoring and Anomaly Analysis System
Lin Xu; Da Ning; Yong Deng; Furong Yu; Yifan Wang; Yucong Duan

6. LAFU-Net: Lightweight Left Atrium Segmentation Network Based on U-Shaped Network
Xu Zhang; Zhao Qiu

DIKW-2: 2024 IEEE International Conference on Data, Information, Knowledge and Wisdom (DIKW) (II)
Session Chair: Qiang Gao, Academy of Military Science, China

1. Revolution on Traditional TRIZ Towards DIKWP-TRIZ for Artificial Consciousness Innovation
Shiming Gong; Yucong Duan; Zaiwen Feng

2. Spike Frequency Adaptation for A Novel Logistic Spiking Neuron Model
Lei Zhang

3. Education Reform Based on DIKWP Artificial Consciousness Theory
Shuaishuai Huang; Yucong Duan; Zaiwen Feng

4. Knowledge Graph-Driven Organizational Planning for Shipboard Communications
Fang Wentao; Zaiwen Feng; Wolfgang Mayer; Da Ning; Yucong Duan; Xiaoxia Li; Yuling Fan

National CyberSecurity Center International Congress

IEEE HPCC/DSS/SmartCity/DependSys/ICESS/DIKW-2024 Poster Session

Poster Session (I)

1. *Spine Image Reconstruction and Lesion Classification Based on Transfer Learning and Quantum Convolutional Neural Network*
Aqsa Dastgir; Bin Wang; Jinfang Sheng; Muhammad Usman Saeed

2. *Unsupervised Pre-Trained Social Networks for E-Commerce Community Detection*
Ting Li; Chunqi Wu; Yang Liu; Zhao Li; Chuan Zhou; Chenhao Qiu; Hongyang Chen; Yongchao Liu; Peng Du; Chuntao Hong

3. *DCKD: Bridging DETR and CNN-Based Detectors With Decomposed Knowledge Distillation*
Yongtai Wei; Dingwen Wang; Tao Qu

4. *LazyCAT: Efficient Fine-Grained Cache Partitioning With Two Boundaries*
Chuanqi Zhang; Xueqi Li; Ninghui Sun; Yungang Bao; Sa Wang

5. *SRFL-DP: A Rapid and Efficient Solution for Single-Row Facility Layout Optimization*
Baixuan Wu; Yufeng Zhang; Zheng Xiao; Kenli Li

6. *Performance Analysis on the Applications of Large Language Models: A Case for Elderly Care*
Shijian Wang; Junjie Deng; Qinyong Li; Yiji Wu; Zhiwei Zhao

7. *TraceGen: A Block-Level Storage System Performance Evaluation Tool for Analyzing and Generating I/O Traces*
Cheng Li; Jiahe Wei; Huiru Xie; Jinjiang Wang; Xiaonan Zhao; Shujie Han; Xiao Zhang

8. *Enabling Heavy Flow Detection on Resource-Constrained Data Plane*
Deyu Zhao; Guang Cheng; Zhu Ruixing; Zhao Yuyu; Yuyang Zhou; Wei Zhang

9. *Accelerating Ultrasound Wave Propagation Simulations Using Pruned FFT*
Ondrej Olsak; Jiri Jaros

10. *Dual-Track Aspect-Level Sentiment Analysis for Alleviating Cold Start in MOOC Course Reviews*
Bangqi Li; Qing Sun; Haochun Xia; Qinghua Cao; Wenge Rong; Chen Chen

11. *ESDRS: Efficient Spatial Dataset Range Search Processing*
Zhangchen Li; Hua Dai; Jie Sun; Hao Zhou; Pengyue Li; Geng Yang

12. *PSqueue: An Enhanced Memory Scheduling Queue Architecture for Multi-Threaded Streaming Memory Access Optimization*

Han Xu; Weitong Wang; Yuyangheng Wang; Huandong Wang

13. Grid-Tagging-Based Chinese Threat Intelligence Entity Recognition Technology
Chai Ziheng; Junshan Pan

14. A Multi-Agent Cooperative Attention Framework for Joint Control of Traffic Signal and Vehicles
Zuoxiu Yang; Kai Liu; Weizhen Han; Bingyi Liu

15. SUMF: Efficient, Stable, and Reliable SPDK Userspace IO Multipathing Framework
Xiaobo Zheng; Duo Sun; Haojun Hu; Wenguang Hu; Shiyi Li; Wen Xia

16. FedTA: Unsupervised Federated Prototype Learning With Temperature Adaptation
Zhao Juan; Xiaoquan Yi; Ruixuan Li; Yuhua Li; Haozhao Wang; Yichen Li; Zhiying Deng; Zijun Xu

17. A Task Dependency-Aware Scheduling Strategy for Cross-Domain Stream Computing Environments
Dawei Sun; Zhongyuan Zhao; Yueru Wang; Shang Gao; Rajkumar Buyya

18. Efficient Serverless Stream Processing Based on High-Level Programming and Parallelism AutoTunig
Xiaozheng Zhang; Wang Xu; Jing Shang; Zhiwen Xiao; Rong Gu

19. FedMHC: Overcoming Dimensionality and Communication Challenges for Personalized Federated Learning Using Model Head Clustering
Haotian Zheng; Yingchi Mao; Haowen Xu; Xiaoming He; Benteng Zhang; Feng Mao; Jie Wu

20. A Practical and Accurate Battery Emulator for Android Smartphones
Yikun Wu; Ningjian Zhang; Senbin Xu; Baisong Dai; Maoxin Ye; Suzhen Wu; Qihang Hu; Caiqiang He; Zhipeng Zhong; Bo Mao

21. Joint Optimization of Scheduling Length and Cost Based on White Shark Optimization in Heterogeneous Clouds
Longxin Zhang; Minghui Ai; Yanfen Zhang; Buqing Cao; Jianguo Chen; Lihua Ai

22. SCRaft: Achieving Fast and Stable Elections in Raft Consensus Algorithm
Yiqi Wang; Haoxiang Luo; Gang Sun; Hongfang Yu

23. SoTimer: A Software-Based Timekeeper for Energy Harvesting Systems
Yunlong Yu; Hongyue Wang; Wei Zhang; Lei Ju

24. An Improved Mixed-Precision FEAST Algorithm for Solving Symmetric Eigenvalue Problems
Yi Xie; Shengguo Li; Tiejun Li; Meiyue Shao; Ruixuan Ren

25. A Multi-AUV Cooperative Search Scheme Based on Acoustic-Optical Communication and Deep Reinforcement Learning

Xiang Li; Peijun Dong; Hang Tao; Pengyan Dong; Zhijie Feng; Hanjiang Luo

26. Adaptive Gain-Based Quick-Measurement BBR Algorithm in High BDP Network Environments
Jiawei Wang; Quan Zheng; Feng Yang; ZhengHuan Xu; Qianbao Shi; Xiaobin Tan

27. CMAIR: Cooperative Multi-Agent Intrinsic Reward Framework for Enhancing Efficiency in Automated Warehouses

Bingyi Liu; Chengrui Wan; Weizhen Han; Enshu Wang; Shihong Cui

28. MDTM: A Multi-Dimensional Trust Management Scheme for Enhancing Security and Stability in SDN

Tianrui Bai; Yuan Liu; Yiwen Gao; Yongbin Zhou

29. Cost-Driven Auction Mechanism for SFC Allocation in Space-Air-Ground Integrated Network

Yali Lyu; Yaping Sun; Xiaoxi Zhang; Jingpu Duan; Xiong Li; Xu Chen

Poster Session (II)

1. On an Approximation Algorithm for HDFS Data Block Placement in Heterogeneous Hadoop Clusters

Yijie Zhang; Chase Q. Wu; Aiqin Hou

2. Achieving High Energy Efficiency for Network Slicing-Enabled 5G O-RAN Base Stations
Yuehan Liu; Leyu Zhao; Jingtong Wu; Di Liu; Xiaojun Hei

3. SEOE: A Sleeper Effect Based Opinion Evolution Model in Social Networks
Han Xu; Si Cheng

4. Automatic Modulation Classification via Data and Knowledge Dual-Driven Scheme
Yi Fang; Xuanpeng LI; Chaoqun Liu; Chen Gong; Siqiang Ma; Guangyu Li

5. MKPL: Multi-Dimensional Knowledge-Embedded Prompt Learning for Few-Shot Malware Family Recognition
Yuxin Zhang; Shuilin Li; Gaolei Li; XiaoYu Yi; Jianhua Li; Mianxiong Dong; Kaoru Ota

6. Adaptive Edge-Device Collaborative Framework for Image Classification
Lu Zheng; Bincheng Zhu; Kaikai Chi

7. Cyber Security Risk Assessment of Intelligent Ships Under Multi-Source Attacks
Wei Gao; Kaiyuan Huang; Xiaoya Hu

8. SSD-GNN: Fraud Detection Based on Spectral and Spatial Dual Graph Neural Networks
Boyi He; Jianzhe Zhao; Xuan Wang; Wei Ai; Tao Meng

9. Gemma: Robust and Path-Aware Loading Balancing in RDMA Networks
Jiuyi Liu; Zhen Zhao; Dongzhan Zhang

10. Anomaly Localization in Industrial Cyber-Physical Systems via a Digital Twin-Driven Multi-Task Network
Xin Du; Chunjie Zhou; Kunkun Wang

11. An Efficient Attribute Attention-Based Vehicle Routing Algorithm With Adaptive Training Strategy
Jinming Li; Siqiang Ma; Chen Gong; Guangyu Li

12. Optimizing Steganographic Fidelity: Content-Aware Syndrome Trellis Code
Junlong Mao; Huiyi Tang; Shanxiang Lyu; Ling Liu; Hongliang He

13. A Learning-Based POMDP Approach for Adaptive Cyber Defense Against Multi-Stage Attacks
Yuantian Zhang; Weixia Cai; Huashan Chen; Zhenyu Qi; Hong Chen; Feng Liu; Sen He

14. AlterCell Attack: Exploiting a Logic Vulnerability in Tor Cell Integrity Validation
Can Zhao; Qingfeng Zhang; Baiwei Duan; Xuebin Wang; Qingyun Liu; Jinqiao Shi

15. Dependent Task Offloading for End-Edge-Cloud Collaborative Computing Based on Deep Reinforcement Learning
Shiyao Liu; Zongshuai Zhang; Nina Wang; Wenhao Zou; Lin Tian

16. EtherEditor: Bytecode Defense Framework for Unleashing Proactive Smart Contract Security
Yuxuan Liu; Yadong Shi; Zhongyuan Qin; Yubo Song

17. Deep Learning-Based Synthetic Trajectory Generation for Enhanced Privacy and Utility
Yinghui Zhang; Juanru Zhang; Hao Li; Weichao Yang

18. A Communication Gating Control Scheme for Multi-UAV Cooperative Maritime Search Based on Deep Reinforcement Learning
Haoran Wang; Yang Zhao; Hang Tao; Jiahong Liu; Gongxiang Li; Hanjiang Luo

19. Ensuring Data Integrity and Freshness in GPU-CXL Transfers With Tamper-Resistant Metadata
Shaofeng Lin; Mingshu Li; Yeping He; Qiming Zhou; Hengtai Ma; Xiaohui Wu

20. ATA: Task-Oriented Adaptive Video Streaming for Cloud-Based Autonomous Driving
Zelin Song; Huanhuan Zhang; Long Zhang; Liang Liu; Huadong Ma

21. BK-Index: A Multi-Attribute Index Algorithm for Network Traffic
Linghao Zhao; Tao Zhao; Fei Wang; Shuhui Chen

22. Improving Forest Management Efficiency: A New Metric for IoT Node Deployment
Pengju Si; Yuhao Zhang; Yixiu Liu; Huan Wang; Zheng Zhigao; Wei Wang

23. 6Diffusion-LM: IPv6 Address Generation Method Based on Diffusion-LM
Xinyi Zhao; Huahu Xu; Ruiping Xing; Yiqin Gao; Jingkun Xu

24. CPDN: Computing Power Dedicated Network for 6G Services
Min Wei; Qianying Zhao; Bo Lei

25. A Routing Algorithm for Computing Power Network Based on Deep Reinforcement Learning and Graph Neural Networks
Guoyuan Ma; Yongmao Ren; Xu Zhou; Chong Li; Pengfei Fan; Shuangyin Ren; Jingchao Wang

26. Accelerating Collaborative Perception via Cooperative Inference in Vehicular Edge Computing
Tao Zhang; Chunhui Liu; Guozhi Yan; Jiantao Wang; Kai Liu

27. Switching Kalman Filter for State-Of-Charge Estimation of Li-Ion Battery Balancing Systems
Heng Li; Yiquan Zhou; Yifei Sun; Xiaoyang Chen; Fu Jiang

28. State-Of-Charge Estimation of Reconfigurable Lithium-Ion Batteries: A Nonlinear Switched Approach
Fu Jiang; Xiang Zhao; Yunsheng Fan; Xiaoyang Chen; Heng Li

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