



7th International Conference on Big Data and
Internet of Things

BDIOT2023

5th International Conference on
Virtual Reality and Image Processing

VRIP2023

August 11-13, 2023

Beijing, China

Co-Sponsored by



Patrons



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Conference Venue



北方工业大学



North China University of Technology, China | 北方工业大学

地址：北京市石景山区晋元庄路5号

北京首都国际机场-北方工业大学 (1h36m)

首都机场线-地铁5号线-地铁6号线
2号航站楼-北新桥-东四站-西黄村站

北京大兴国际机场-北方工业大学 (1h27m)

大兴机场线-地铁19号线-地铁6号线
大兴机场站-草桥站-平安里站-西黄村站

Instruction for Onsite Attendees

Oral Presentation

1. Timing: a maximum of 15 minutes total, including speaking time and discussion. Please make sure your presentation is well timed. Please keep in mind that the program is full and that the speaker after you would like their allocated time available to them.
2. You can use USB flash drive (memory stick), make sure you scanned viruses in your own computer. Each speaker is required to meet her/his session chair in the corresponding session rooms 10 minutes before the session starts and copy the slide file(PPT or PDF) to the computer.
3. It is suggested that you email a copy of your presentation to your personal inbox as a backup. If for some reason the files can't be accessed from your flash drive, you will be able to download them to the computer from your email.
4. Please note that each session room will be equipped with a LCD projector, screen, point device, microphone, and a laptop with general presentation software such as Microsoft PowerPoint and Adobe Reader. Please make sure that your files are compatible and readable with our operation system by using commonly used fonts and symbols. If you plan to use your own computer, please try the connection and make sure it works before your presentation.
5. Videos: If your PowerPoint files contain video clips please make sure that they are well formatted and connected to the main files.

Dress Code

Please attend the conference in formal attire.

Safety Reminder: Secure Valuable Items at All Times

We remind you to secure your personal belongings at all times.

Please remember to:

- * Wear your Conference Identification Badge at all times. Do not throw away Badge.
- * If you are using a laptop, do not leave it unattended at any time.
- * Keep your purse, wallet and other valuables with you at all times.
- * The conference organizer will not be responsible for the loss or damage to any personal belongings.

Instruction for Online Attendees

Time zone: GMT+8

*Please set up the alarm to remind yourself for the real-time test and presentation.

Software: Zoom; download a Zoom client from:<https://zoom.us/download>

The Zoom account is not mandatory to attend the conference. If you do not want to register the account, by entering meeting ID is also accessible to our conference.

Learn the Zoom skills at:<https://support.zoom.us/hc/en-us/articles/206618765-Zoom-Video-Tutorials>

Join the Test Session before the Formal Session

正式会议前的测试

Date: August 11, 2023 时间: 2023 年 8 月 11 日

Prior to the formal meeting, presenters shall join the test room to ensure everything is on the right track. Please check your test time on this program. 在正式会议之前, 演讲者应加入测试室测试电脑, 网络, 学会在线会议的基本操作, 以确保一切都能正常进行。请在日程上查看您的测试时间。

To effectively control the time and avoid some unexpected situations, we advise you record your presentation ahead of time, play the video while it's your turn for presentation. The Video presentation should be within 12 minutes, 3 minutes for Q&A, in total, one presentation is 15 minutes. 为更好的控制时间以及避免会议过程中的一些意外情况, 我们建议您提前录制好报告发送给我们。每个演讲者最多 15 分钟, 其中 3 分钟用于问答。请确保您的演讲在规划的时间内完成, 以免占用下一位报告作者的时间。

Equipment Needed

- A computer with internet connection and camera
- Headphones

Environment Needed

- Quiet Location
- Stable internet connection
- Proper lighting and background

Language

Please make presentation in English. If necessary, it is allowed to restate some key points in Chinese. Please feel free to discuss in English or Chinese during Q&A.

Attention Please

The conference will be recorded. We will appreciate your proper behavior.

Presentation Recording and Broadcasting

The photograph(s) or video or audio recording(s) will be taken by conference organizer. It will be used in for conference program purpose. The photograph(s) or video or audio recording(s) will be destroyed after the conference, it cannot be distributed to or shared with anyone, it shall not be used for commercial nor illegal purpose. Each presentation will be recorded, if you don't want it, please inform our staff ahead of time.

Do not record other presenters' presentation nor distribute it to or share with anyone unless the presenter gives written consent of agree. Failure to do so will be considered a serious academic violation subject to disciplinary/lawful action.

Conference Committee

Advisory Chair

Rajkumar Buyya, University of Melbourne, Australia (IEEE Fellow, h-index=160)

Conference Chairs

Wei Song, North China University of Technology, China

Jinan Fiaidhi, Lakehead University, Canada

Conference Co-Chair

Juntao Gao, Tsinghua University, China

Program Chairs

Simon Fong, University of Macau, Macau SAR, China

Haining Liang, Xi'an Jiaotong-Liverpool University, China

Xinghua Li, Wuhan University, China

Xingquan Cai, North China University of Technology, China

Sabah Mohammaned, Lakehead University, Canada

Yunsick Sung, Dongguk University, South Korea

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Program Co-Chairs

Lianggui Tang, Chongqing Technology and Business University, China

Fei Hao, Shaanxi Normal University, China

Alexandre Lobo, Saint Joseph University, Macau

Kok-Leong Ong, RMIT University, Australia

Antonio J. Tallón Ballesteros, University of Huelva, Spain

Local Committee

Chen Li, North China University of Technology, China

Yuanyao Lu, North China University of Technology, China

Fei Han, North China University of Technology, China

Li Ma, North China University of Technology, China

Jianyong Duan, North China University of Technology, China

Publicity Chairs

Gloria Tengyue Li, ZIAT, Zhuhai Chinese Academic of Science, Zhuhai, China

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Euclides Chuma, Linköping University, Sweden

Manolya Kavakli, Macquarie University, Australia

Rajan Shankaran, Macquarie University, Australia

Dalvan Griebler, Pontifícia Universidade Pontifical Catholic University of Rio Grande do Sul (PUCRS), Brazil

Gabriel Gomes de Oliveira, University of Campinas, Brazil

Yuzo Iano, University of Campinas, Brazil

Intan Salwani Mohamed, Universiti Teknologi MARA, Malaysia

Marshima Mohd Rosli, Universiti Teknologi MARA, Malaysia

Nabilah Rozzani, Management and Science University, Malaysia

Renjith V. Ravi, M.E.A Engineering College, India

Radhakrishna Bhat, Manipal Academy of Higher Education, India


Ali Saberi, Iranian Researchers Network, Iran

Mehdi Hassan, Air University Islamabad, Pakistan



Meeting Agenda

BDIOT2023


Day 1, August 11

- 10:00-17:00 Onsite Registration; Conference kits collection at
 Lobby, 1st Floor, Guangxue Building (广学楼)
- 10:00-12:00 Online Zoom Test for Online Attendees (session 3/4/5)

Day 2, August 12

- 09:00-09:10 Opening
- 09:10-12:00 Keynote / Invited Talk
 Lecture Hall, 2nd Floor, Guangxue Building (广学楼)
- 13:30-18:00 Onsite Parallel Sessions (Session 1/2)
 Room 101, 1st Floor, Guangxue Building (广学楼)
- 18:30-20:00 Dinner, Closing of Conference

Day 3, August 13

- 10:00-12:00 School Tour - NCUT History Museum
 2nd Floor, Jingxue Building (静学楼)
- 09:00-12:45 Online Parallel Sessions (session 3/4/5)

Meeting Agenda

Date: August 11, 2023

Time Zone: GMT+8

BDIOT2023

Time	Activity
09:00-10:00	Online Test for Keynote Speaker & Online Session Chairs
	Online Test for Session 3 at ZOOM ID: 873 1249 0262
10:00-11:00	TP23-5040 TP23-5130 TP23-5190 TP23-5260 TP23-5280 TP23-5029 TP23431
	Online Test for session 4 & 5 at ZOOM ID: 868 6829 3156
11:00-12:00	XIN015 TP23-E02 TP23-5200 XIN016 TP23-5033 TP23962 TP23373 TP23-5025 TP23-5015 TP23-5021 XIN014-A XIN109 TP23054 TP23376
Attention	*Please enter the room in the related duration. *Please attend the test to ensure your device is available. *Please prepare headphone/earphone. *Please prepare slides or files for sharing screen use.
Thank you for your cooperation.	



Meeting Agenda

Date: August 12, 2023

Time Zone: GMT+8

BDIOT2023

Conference Venue: Lecture Hall, 2nd Floor, Guangxue Building (广学楼, 二楼)

Zoom ID: 868 6829 3156 <https://us02web.zoom.us/j/86868293156>

Time	Activity
	Host – Prof. Wei Song – Conference Chair North China University of Technology, China
09:00-09:10	Opening Remarks: Prof. Jianwen Wang – Vice President – North China University of Technology, China
09:10-09:55	Online Keynote Speech: Prof. Rajkumar Buyya IEEE Fellow The University of Melbourne, Australia Topic: Neoteric Frontiers in Cloud, Edge, and Quantum Computing
09:55-10:30	Invited Speech: Assoc. Prof. Juntao Gao Tsinghua University, China Topic: Big Data in Image-Based Spatial Multi-Omic Database iSMOD
10:30-10:50	Group Photo & Coffee Break
10:50-11:25	Invited Speech: Assoc. Prof. Fei Hao Shaanxi Normal University, China Topic: Socially-aware Dependent Tasks Offloading in Mobile Edge Computing
11:25-12:00	Invited Speech: Assoc. Prof. Rui Yang Xi'an Jiaotong-Liverpool University, China Topic: MSDAN: A Multi-Subdomain Adaptation Network for Single-Source to Single-Target Cross-Subject Motor Imagery Classification
12:00-13:30	Lunch Break at Yuxiu Canteen, 2 nd Floor (毓秀餐厅, 二楼)
Conference Venue: Room 101, 1 st Floor, Guangxue Building (广学楼, 一楼)	
13:30-15:30	Session 1 - Image Processing and Machine Vision
15:30-15:45	Coffee Break
15:45-18:00	Session 2 - Interactive Design and Network Security
18:30-20:30	Dinner (尹记烤鸭店-八角店)



Meeting Agenda

Date: August 13, 2023

Time Zone: GMT+8

BDIOT2023

Time	Activity
	Onsite
10:00-12:00	Visit NCUT History Museum North China University of Technology, China
	Online
09:00-10:45	Online Session 3: Zoom ID: 873 1249 0262 Linkage: https://us02web.zoom.us/j/87312490262 Topic: Image Detection, Analysis, and Application (Attendees from Session 3 should go to the same zoom ID to complete the test on Aug. 11.)
09:00-10:45	Online Session 4: Zoom ID: 868 6829 3156 Linkage: https://us02web.zoom.us/j/86868293156 Topic: Modern Information Systems and Management Technology (Attendees from Session 4 should go to the same zoom ID to complete the test on Aug. 11.)
11:00-12:45	Online Session 5: Zoom ID: 868 6829 3156 Linkage: https://us02web.zoom.us/j/86868293156 Topic: Next Generation Artificial Intelligence and Virtual Reality Technology (Attendees from Session 4 should go to the same zoom ID to complete the test on Aug. 11.)
Thank you for attending BDIOT & VRIP.	



Keynote Speaker



Prof. Rajkumar Buyya

University of Melbourne, Australia

Speech Title: Neoteric Frontiers in Cloud, Edge, and Quantum Computing

Zoom ID: 868 6829 3156

Linkage: <https://us02web.zoom.us/j/86868293156>

Biosketch

Dr. Rajkumar Buyya is a Redmond Barry Distinguished Professor and Director of the Cloud Computing and Distributed Systems (CLOUDS) Laboratory at the University of Melbourne, Australia. He is also serving as the founding CEO of Manjrasoft, a spin-off company of the University, commercializing its innovations in Cloud Computing. He has authored over 850 publications and seven textbooks including "Mastering Cloud Computing" published by McGraw Hill, China Machine Press, and Morgan Kaufmann for Indian, Chinese and international markets respectively. Dr. Buyya is one of the highly cited authors in computer science and software engineering worldwide (h-index=160, g-index=352, and 137,500+ citations).

Software technologies for Grid, Cloud, and Fog computing developed under Dr. Buyya's leadership have gained rapid acceptance and are in use at several academic institutions and commercial enterprises in 50+ countries around the world. Manjrasoft's Aneka Cloud technology developed under his leadership has received "Frost New Product Innovation Award". Dr. Buyya received "Mahatma Gandhi Award" along with Gold Medals for his outstanding and extraordinary achievements in Information Technology field and services rendered to promote greater friendship and India-International cooperation. He served as founding Editor-in-Chief of the IEEE Transactions on Cloud Computing. He is currently serving as Editor-in-Chief of Software: Practice and Experience, a long-standing journal in the field established 50+ years ago. He has presented over 700 invited talks (keynotes, tutorials, and seminars) on his vision on IT Futures, Advanced Computing technologies, and Spiritual Science at international conferences and institutions in Asia, Australia, Europe, North America, and South America. He has recently been recognized as a Fellow of the Academy of Europe. For further information on Dr. Buyya, please visit his cyberhome: www.buyya.com

Abstract

Computing is being transformed to a model consisting of services that are delivered in a manner similar to utilities such as water, electricity, gas, and telephony. In such a model, users access services based on their requirements without regard to where the services are hosted or how they are delivered. Cloud computing paradigm has turned this vision of "computing utilities" into a reality. It offers infrastructure, platform, and software as services, which are made available to consumers as subscription-oriented services. Cloud application platforms need to offer (1) APIs and tools for rapid creation of elastic applications and (2) a runtime system for deployment of applications on geographically distributed Data Centre infrastructures (with Quantum computing nodes) in a seamless manner.

The Internet of Things (IoT) paradigm enables seamless integration of cyber-and-physical worlds and opening opportunities for creating new class of applications for domains such as smart cities, smart robotics, and smart healthcare. The emerging Fog/Edge computing paradigms support latency sensitive/real-time IoT applications with a seamless integration of network-wide resources all the way from edge to the Cloud.

This keynote presentation will cover (a) 21st century vision of computing and identifies various IT paradigms promising to deliver the vision of computing utilities; (b) innovative architecture for creating elastic Clouds integrating edge resources and managed Clouds, (c) Aneka 5G, a Cloud Application Platform, for rapid development of Cloud/Big Data applications and their deployment on private/public Clouds with resource provisioning driven by SLAs, (d) a novel FogBus software framework with Blockchain-based data-integrity management for facilitating end-to-end IoT-Fog/Edge-Cloud integration for execution of sensitive IoT applications, (e) experimental results on deploying Cloud and Big Data/ IoT applications in engineering, and health care (e.g., COVID-19), deep learning/Artificial intelligence (AI), satellite image processing, and natural language processing (mining COVID-19 research literature for new insights) on elastic Clouds, (f) QFaaS: A Serverless Function-as-a-Service Framework for Quantum Computing, and (g) directions for delivering our 21st century vision along with pathways for future research in Cloud and Edge/Fog computing.

Invited Speaker



Assoc. Prof. Juntao Gao

Tsinghua University, China

Speech Title: Big Data in Image-Based Spatial Multi-Omic Database iSMOD

Venue: Lecture Hall, 2nd Floor, Guangxue Building

Zoom Linkage: <https://us02web.zoom.us/j/86868293156>

Biosketch

Prof. Juntao Gao is the Research Associate Professor, Beijing National Research Center for Information Science and Technology (BNRist), Tsinghua University. He received Ph.D degree from Heidelberg University, Germany in 2005 (supervisor: Prof. Roland Eils) and received postdoctoral training in Stowers Institute for Medical Research in USA (supervisor: Prof. Rong Li). He has been working in Tsinghua University since 2011, being engaged in research on developing imaging and bioinformatic methods to study 3D genome and gene regulation. He has published more than 50 papers in PNAS, Nature Communications, Nucleic Acid Research, Light: Science & Applications (LSA), IEEE Transactions on Medical Imaging, Redox Biology, ACS Photonics, and other journals. Some work has been reported by Nature Methods as "Research Highlights".

Abstract

The very first integrative browser iSMOD (imaged-based Spatial Multi-omic Database), which includes imaged-based spatial genomic, spatial transcriptomic, and the spatial information of key nucleic proteins in cell nucleus, was developed by us recently(<https://www.i-smod.com/>). iSMOD is constructed to collect and browse the comprehensive FISH and nucleus proteomics information from the title, abstract, keywords, and all relevant images of 40,000+ (and still growing) public papers in Pubmed. An automatic figure parser method was developed here, including high precision subfigure segmentation, screening, figure-text extraction, caption matching and reference extraction, etc., to obtain all essential information.

As the very first browser for imaged-based spatial multi-omic data focusing on the key players in cell nucleus, iSMOD provides a corner stone to browse the images of different genomic loci and key proteins, to verify various chromatin interactions in different species, and to build up a 3D model of chromatin in cell nuclei of different species, in order to serve the field and scientific community in a more efficient way.

Invited Speaker



Assoc. Prof. Fei Hao

Shaanxi Normal University, China

Speech Title: Socially-aware Dependent Tasks Offloading in Mobile Edge Computing

Venue: Lecture Hall, 2nd Floor, Guangxue Building

Zoom Linkage: <https://us02web.zoom.us/j/86868293156>

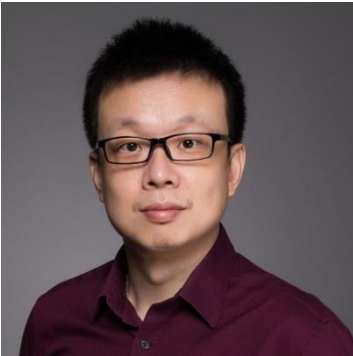
Biosketch

Dr. Fei Hao received the Ph.D. degree in Computer Science and Engineering from Soonchunhyang University, South Korea, in 2016. Since 2016, he has been with Shaanxi Normal University, Xi'an, China, where he is an Associate Professor. From 2020 to 2022, he was a Marie Skłodowska-Curie Fellow with the University of Exeter, Exeter, United Kingdom. His research interests include social computing, ubiquitous computing, big data analytics, knowledge graph and edge intelligence. He is also a China Regional Director of International Association for Convergence Science and Technology (IACST), an executive director of Shanxi Association of Experts and Scholars (SAES) Information Branch, and an executive director of Shanxi Block-chain Research Association. Dr. Hao holds a world-class research track record of publication in the top international journals and the prestigious conferences. He has published more than 150 papers in the leading international journals and conference proceedings, such as IEEE Transactions on Parallel and Distributed Systems, IEEE Transactions on Services Computing, IEEE Communications Magazine, IEEE Internet Computing, ACM Transactions on Multimedia Computing, Communications and Applications as well as ACM SIGIR and GlobeCom. In addition, he was the recipient of 6 Best paper awards from CSA 2020, CUTE 2016, UCAWSN 2015, MUE2015, IEEE GreenCom 2013 and KISM 2012 conferences, respectively. He was also the recipient of the Outstanding Service Award at SMMA 2020, FutureTech 2019, DSS2018, and SmartData 2017, the IEEE Outstanding Leadership Award at IEEE CPSCOM 2013 and the 2015 Chinese Government Award for Outstanding Self-Financed Students Abroad. Since 2017, he has joined JIPS (Journal of Information Processing Systems) editorial board, where he is currently an associate editor. He is currently an editor of ICT Express journal. And he is an initiator and general/program chair of IEEE DSCI and SMMA. He is also a member of ACM, CCF and KIPS.

Abstract

In recent years, with the advent of the 5G era and the continuous development of science and technology, the number of computation-intensive applications has been increasing. Faced with the massive amount of data generated by these computation-intensive applications and the lack of computing resources due to the hardware constraints of users' mobile devices, there is an inability to execute these applications. Mobile Edge Computing (MEC) speeds up the task transmission time by offloading the tasks to the edge server for execution, reducing the user's waiting time and improving the quality of service. However, when the computation-intensive applications are offloaded, these applications are usually decomposed into multiple tasks with dependencies, and the offloading of these dependent tasks needs to be offloaded in strict execution order, thus a huge challenge is raised for task offloading and its optimization. Moreover, in the case of offloading tasks with other devices, it is often required to consider the success rate of offloading, since not all users are willing to lend their mobile devices to others for task execution. To conquer this challenge, by taking social relationships between users into account, this research intends to combine the computational resources of local devices and edge clouds and provide more flexible offloading and execution solutions, for achieving the efficient offloading of dependent tasks with the joint consideration of network latency and energy consumption. Technically, this talk will introduce a joint optimization of latency and reward dependent task offloading method, an evolutionary algorithm-based cloud-edge-end collaborative dependent tasks offloading method, and a socially-aware dependent tasks offloading method.

Invited Speaker



Assoc. Prof. Rui Yang

Xi'an Jiaotong–Liverpool University, China

Speech Title: MSDAN: A Multi-Subdomain Adaptation Network for Single-Source to Single-Target Cross-Subject Motor Imagery Classification

Venue: Lecture Hall, 2nd Floor, Guangxue Building

Zoom Linkage: <https://us02web.zoom.us/j/86868293156>

Biosketch

Rui Yang (Member, IEEE) received the B.Eng. degree in computer engineering and the Ph.D. degree in electrical and computer engineering from the National University of Singapore, Singapore, in 2008 and 2013, respectively. He is currently an Associate Professor with the School of Advanced Technology, Xi'an Jiaotong–Liverpool University, Suzhou, China, and an Honorary Lecturer with the Department of Computer Science, University of Liverpool, Liverpool, U.K. His research interests include machine learning based data analysis and applications. He has authored or coauthored more than 80 technical papers. Dr. Yang has also been a very active reviewer for many international journals and conferences. He is currently serving as associate editors for *Neurocomputing* and *International Journal of Network Dynamics and Intelligence*.

Abstract

In the electroencephalography (EEG) based cross-subject motor imagery (MI) classification task, the device and subject problems can cause the time-related data distribution shift problem. In a single-source to single-target (STS) MI classification task, such a shift problem will certainly provoke an increase in the overall data distribution difference between the source and target domains, giving rise to poor classification accuracy. In this paper, a novel multi-subdomain adaptation method (MSDAN) is proposed to solve the shift problem and improve the classification accuracy of the traditional approaches. In the proposed MSDAN, the adaptation losses in both class-related and time-related subdomains (that are divided by different data labels and session labels) are obtained by measuring the distribution differences between the source and target subdomains. Then, the adaptation and classification losses in the loss function of MSDAN are minimized concurrently. To illustrate the application value of the proposed method, our method is applied to solve the STS MI classification task about data analysis with respect to the brain-computer interface (BCI) competition III-IVa dataset. The resultant experiment results demonstrate that compared with other well-known domain adaptation and deep learning methods, the proposed method is capable of solving the time-related data distribution problem at higher classification accuracy.

Session 1**Image Processing and Machine Vision****Venue:****Room 101, 1st Floor, Guangxue Building****Session Chair****Prof. Wei Song, North China University of Technology, China**

13:30-13:45	What Does Pre-Train Bring to Vision Transformer
TP23-5060	Yajie Wu, Weihan Ren , Zhihui Yang North China University of Technology, China
13:45-14:00	Central Vision based Super-resolution for 360-Degree Videos
TP23612	Xiaoyan Wang , Tho Nguyen Duc, Chanh Minh Tran, Eiji Kamioka, Tan Xuan Phan Shibaura Institute of Technology, Japan
14:00-14:15	Three-dimensional Point Cloud Indoor Reconstruction based on Plane Calibration for Smart City
TP23-5080	Dechao Li , Yu Xin, Xinghui Xu, Wei Song North China University of Technology, China
14:15-14:30	A Fast Self-supervised Dual Correlation Window based Stereo Matching
TP23032	Yuchen LIU , Phan Xuan Tan, Eji Kamioka, Akshara Nadayanur Sathis Kanna, Ridhi Mahajan, Ujwal Kumar Shibaura Institute of Technology, Japan
14:30-14:45	The Digital Reconstruction of Rockery Landscape Based on NeRF
TP23-5340	Jiale Sun , Ye Sun, Min Chen North China University of Technology, China
14:45-15:00	Application of Multiple Design Patterns in Virtual Reality Game Development
TP23-5035	Yulin Qian , Juntao Deng, Siyi Chen North China University of Technology, China
15:00-15:15	DGMiniNet: Dynamic Graph Convolution Network for LiDAR Point Cloud Semantic Segmentation on Spherical Coordinates
TP23-5360	Rui Wu , Zhen Liu North China University of Technology, China
15:15-15:30	Pedestrian Recognition Method Based on Jetson Nano
TP23-5037	Lemei Zhang , Yu Xin North China University of Technology, China
	Best Presentation Award and Group Photo

Session 2	
Interactive Design and Network Security	
Venue:	
Room 101, 1st Floor, Guangxue Building	
Session Chair	
Assoc. Prof. Fei Hao, Shaanxi Normal University, China	
15:45-16:00 TP23-5001-A	Incentive Compatible Networks and Delegated Network Formation over Layered Networks Jing Fu , Frank Page Fukuoka Institute of Technology, Japan
16:00-16:15 TP23-5020	A Dynamic Thresholds based Anomaly Detection Algorithm in Energy Consumption Process of Industrial Equipment Miao Zheng , Linyuan Geng, Bin Zuo, Teruo Nakata Hitachi China Research laboratory Hitachi (China), Ltd., China
16:15-16:30 TP23-E01	A Research on Perceived Farm Interaction System Based on Machine Learning Huzhaorui Kang Changchun Normal University, China
16:30-16:45 TP23-5007	LASNet: Light Feature Encoder and SCBGK Algorithm For Panoptic Segmentation Chaoqun Wu , Min Chen, Wei Song North China University of Technology, China
16:45-17:00 TP23-5110	Concept Lattice Factorization in Social Networks Fei Hao , Chao Zhang, Bo Li, Jianmei Cheng Shaanxi Normal University, China
17:00-17:15 TP23-5220	Heterogeneous-training: A Semi-supervised Text Classification Method Yuhao Shen, Bo Li , Xinlan Xu, Bing Luo, Chao Zhang, Fei Hao Xihua University, China
17:15-17:30 TP23-5031	The Traditional Cultural Interactive Experience System Based on Leap Motion Min Chen, WeiFan Liu , YuJie Zhao, Gozho Amanda, Wei Song North China University of Technology, China
17:30-17:45 TP23118	Evaluation Criteria and Data Analysis of Interactive Design of Virtual Reality Training System for Upper Limb Rehabilitation of Stroke Patients Zixuan Xu , Xingsong Wang, Mengqian Tian Southeast University, Nanjing, China
17:45-18:00 TP23-5320	Research on Real-time Early Warning Mechanism of Aviation Safety Based on Finite State Machine Underlying in QAR Stream Data Tianhao Li , Yujia Zheng, Haoan Zhang, Weizhi Ma, Ying Li North China University of Technology, China
	Best Presentation Award and Group Photo

Session 3**Image Detection, Analysis, and Application****Zoom ID:****873 1249 0262, <https://us02web.zoom.us/j/87312490262>****Session Chair****Dr. Le Hong Trang, Ho Chi Minh City University of Technology, Vietnam**

09:00-09:15	LatentCluster: Clustering GANs Latent Space for Massive Conditional Sampling
TP23-5040	Matheus Henrique Soares Pinheiro, Yuzo Iano, Gabriel Gomes de Oliveira , Gabriel Caumo Vaz, Euclides Lourenço Chuma, Adolfo Blengini Neto UNICAMP, Brazil
09:15-09:30	An Ensemble Learning Approach for Exercise Detection in Type 1 Diabetes Patients
TP23-5130	Ke Ma, Hongkai Chen, Shan Lin Stony Brook University, United States
09:30-09:45	Transformer-based High-Fidelity StyleGAN Inversion for Face Image Editing
TP23-5190	Chutian Yang , Xiping He, Qixian Kuang, Ling Huang, Lingling Tao Chongqing Technology and Business University, China
09:45-10:00	Lightweight Garbage Detection Algorithm Based on Improved YOLOv5s
TP23-5260	Zhenqi Xiao , Guangxiang Yang and Xu Wang Chongqing Technology and Business University, China
10:00-10:15	Diffusion Model for Breast Cancer Segmentation
TP23-5280	Xue Wang , Lianggui Tang, Hongda Mou, Song Peng, Xiuling Zhu, Xuan Lai Chongqing Technology and Business University, China
10:15-10:30	Enhanced Feature Extraction-Based Semantic Segmentation Network for Remote Sensing Image Using Modified Swin Transformer
TP23-5029	Song Peng , Lianggui Tang, Xue Wang, Hongda Mou, Xiuling Zhu, Xuan Lai Chongqing Technology and Business University, China
10:30-10:45	An Attention-based Audio-visual Fusion Method for Short Video Classification
TP23431	Hongliang Dai , Xingfeng Zhang, Haiyang Yu Yangzhou University, China
	Best Presentation Award and Group Photo

Session 4**Modern Information Systems and Management Technology****Zoom ID:****868 6829 3156, <https://us02web.zoom.us/j/86868293156>****Session Chair****Prof. Ying Li, North China University of Technology, China**

09:00-09:15 XIN015	A study of the impact of top manager's Taisui on IPO Qi Cheng, Cuifeng Wu , Siyan, Chen Xiamen University of Technology, China
09:15-09:30 TP23-E02	Rural Logistics Distribution Center Location Selection Based on Improved Northern Goshawk Algorithm Biwen Cai , Ming Li, Junjie Wang Chongqing Technology and Business University, China
09:30-09:45 TP23-5200	Service Innovation of Tourism Enterprises in Big Data Era: a Case Study of a Chinese Tourism Enterprise Yanli Bao , Hefeng Hua Wuxi City College of Vocational Technology, China
09:45-10:00 XIN016	Can CEO's environmental concern mitigate the impact of extreme weather on the performance of listed companies? Qi Cheng, Cuifeng Wu , Conglong He Xiamen University of Technology, China
10:00-10:15 TP23-5033	Patient Information Retrieval Based on BERT Variants and Clinical Texts in Electronic Medical Records Quang Le and Chau Vo Ho Chi Minh City University of Technology, Vietnam National University - HCMC, Viet Nam
10:15-10:30 TP23962	Design of General Chronic Disease Retrieval Model Framework Based on Chinese Medical Knowledge Graph Yi Yang , Dekuang Yu, Yangyang Zhu, Yuxuan Qin, Erhao Wang Southern Medical University, China
10:30-10:45 TP23373	Utilizing Virtual Reality in Higher Education Marketing through Open-Source and Open-Educational Software Raymond Leonardo Chandra , Djamel Berkaoui, Koen Castermans, Heribert Nacken RWTH Aachen University, Germany
	Best Presentation Award and Group Photo

Session 5**Next Generation Artificial Intelligence and Virtual Reality Technology****Zoom ID:****868 6829 3156, <https://us02web.zoom.us/j/86868293156>****Session Chair****Dr. Wee Hong Ong, Universiti Brunei Darussalam, Brunei Darussalam**

11:00-11:15 TP23-5025	Research on Bayesian Network Garbage Classification based on Multi-Source Information Fusion Xu Wang , Guangxiang Yang, Zhenqi Xiao, Guangling Yu Chongqing Technology and Business University, China
11:15-11:30 TP23-5015	Research on Network Dynamic Security Policy Model Based on Neural Network Zhiyuan Hu, Yuan Tan , Anchao Cheng, Guangjun Zeng National University of Defense Technology, China
11:30-11:45 TP23-5021	Aspect-based Sentiment Analysis Method Using Text Generation Ke Yan , Lianggui Tang, Meiling Wu, Qingda Zhang, Xiuling Zhu Chongqing Technology and Business University, China
11:45-12:00 XIN014-A	An Empirical Study on Factors Influencing Continuous Intention to Use of AI-Based Recommendation Services in Digital Platforms Sung Yeon Kim , Jin Min Kim Korea University, Republic of Korea
12:00-12:15 XIN109	DBSCAN-Based Malicious Node Detection to Secure Wireless Sensor Networks Muhammad Raisuddin, Ahmed , Thirein Myo, Mohammed A Aseeri, Mohammad Hamiruce B. Marhaban, M Shamim Kasier Military Technological College, Oman
12:15-12:30 TP23054	Research on VR Virtual Museum Creation Based on Unity Engine and URP Rendering Pipeline-Taking Paper Cutting Museum as an Example Shike Wang , Chengze Wang, Shirong Song Lanzhou Jiaotong University, China
12:30-12:45 TP23376	Synthesizing 3D VR Sketch Using Generative Adversarial Neural Network Wanwan Li University of South Florida, United States
	Best Presentation Award and Group Photo

NCUT Introduction

North China University of Technology, China

北方工业大学

North China University of Technology, located in the western part of Beijing, is a municipal university founded in 1946. Co-established by Beijing and central government, NCUT is administrated mainly by the People's Government of Beijing Municipality. Acquiring a reputation as one of the most beautiful universities in Beijing, the University covers over 30 hectares and 400 thousand square meters of overall floorage.

NCUT has developed into a multidisciplinary university featuring engineering while compatible both in arts and science, and nowadays comprises 12 schools, respectively School of Information Science and Technology, School of Electrical and Control Engineering, School of Mechanical and Materials Engineering, School of Architecture and Art, School of Civil Engineering, School of Economics and Management, School of Humanities and Law, School of Sciences, School of Marxism, Brunel London School, School of Continuing Education, and International School, with 15,065 full-time students, including 11,879 undergraduate students, 3,036 graduate students, 333 international students, 150 second-bachelor-degree students and over 4,500 continuing-education students. NCUT Engineering has been ranked as the global top 1% discipline by ESI, as well as Computer Science and Technology has been assessed as B-level disciplines in the 4th National Discipline Evaluation. Both Control Science and Engineering were recognized as the top 20% among Shanghai Ranking's National Best Disciplines in 2020, and also approved as Advanced, Precise and Cutting-Edge Disciplines in Beijing universities.

学校创立于 1946 年，前身是国立北平高级工业职业学校，新中国成立后曾先后隶属于冶金工业部和 中国有色金属工业总公司，1985 年更为现名，1998 年划转北京市管理。

现已发展成为一所以工为主，理、工、文、经、管、法、艺七大学科门类协调发展，工科优势突出、特色鲜明的高等院校。工程学学科进入 ESI 全球排名前 1%，计算机科学与技术进入全国第四轮学科评估 B 层。控制科学与工程学科进入 2020 年软科中国最好学科排名前 20%，获批北京高校高精尖学科。电力电子工程学科进入 2020 年软科世界一流学科排名全球前 400 名，居北京市属高校首位。

学校位于北京市石景山区，占地 452 亩，建筑面积 40 万平方米。学校环境雅致，人文气息浓厚，1986 年建立了全国理工科院校第一所艺术馆，1992 年被评为北京市首家文明校园。学校获评“北京高校十佳美丽校园”，是全国绿化美化先进单位和北京市平安校园示范校，连续五次被授予“首都文明单位”称号。学校扎实推进智慧校园、绿色校园、健康校园建设，2019 年获评“全国节约型公共机构示范单位”。

