

# 7th EAI International Conference on 6G for Future Wireless Networks

October 19, 2024, Chongqing, China

# EAI 6GN 2024

## Conference Program

Organized by  
Chongqing University



重慶大學  
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**Program Schedule of 6GN 2024(October. 19, Chongqing University, Chongqing)**

9:00–9:15	Opening Remarks
9:15–10:55	Session 1: <b><i>Wireless Control and Network Optimization</i></b> (Chair: Chenyu Wu)
9:15–9:35	Analysis of Electronic Countermeasures and Exploration of Cognitive Techniques
9:35–9:55	Base Station Location Optimization Framework Based on Digital Twins for 6G Networks
9:55–10:15	Modeling and Optimization of Random Access in NB-IoT Network with Heterogeneous Users
10:15–10:35	Research on Routing Algorithm of Space-Air Integrated Networks
10:35–10:55	Research on Statistical Priority-Based Multiple Access Protocol in Mobile Ad Hoc Networks
10:55–11:10	Coffee Break
11:10–12:30	Session 2: <b><i>Edge Computing and Resource Allocation</i></b> (Chair: Guozeng Xu)
11:10–11:30	Deep Reinforcement Learning for Cache Allocation of Multi-Cloud Content Providers in Mobile Edge-Cloud Computing Networks
11:30–11:50	HCTRL: Hierarchical Clustering Tree Reinforcement Learning Algorithm for Efficient Content Caching
11:50–12:10	Multivariate Time Series Anomaly Detection Based on Device-Edge-Cloud Collaboration in Internet of Things
12:10–12:30	Reinforcement learning-based computation offloading and resource allocation optimization in multi-access edge computing environment
12:30–13:30	Lunch Break
13:30–15:10	Session 3: <b><i>Intelligent Systems and Simulation</i></b> (Chair: Peiran Wu)
13:30–13:50	UAV topology control method based on fuzzy C-clustering algorithm
13:50–14:10	Research on Joint Optimization Model of Drone Trajectory and Power for SAGIN Swarm Intelligence Technology
14:10–14:30	Research on the Application of LoRa Technology in Intelligent Ranch Environmental Monitoring System
14:30–14:50	Simulation and Analysis of Harmonic Reducer Dynamics Based on Adams
14:50–15:10	V2V Communication Systems for Advanced Truck Platooning at Freight Hubs
15:10–15:25	Coffee Break
15:25–17:05	Session 4: <b><i>Artificial Intelligence and Digital Economy</i></b> (Chair: Fengwei Gu)
15:25–15:45	A Software-Hardware Co-Design Platform for Convolutional Neural Network Accelerator with Tengine
15:45–16:05	Personalized Federated Learning Algorithm based on Shuffle Differential Privacy
16:05–16:25	Research and Design of Tomato Detection Accelerator Based on FPGA
16:25–16:45	Research on the Role of Fiscal Deficit in the Impact of Digital Inclusive Finance on Economic Growth
16:45–17:05	The Impact of E-commerce on the Consumption Level of Chinese Residents under the Background of Communication Network Technology
17:05–17:20	Best Paper Announcement & Closing Remarks

◆ **Sessions****Index (The following Paper ID was created when the CAMERA READY was uploaded)**

<b>Paper ID</b>	<b>Session</b>	<b>Paper ID</b>	<b>Session</b>
352364	S1-1	352381	S3-2
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***S1***

9:15 AM – 10:55 AM (Sat. 19 October 2024)

*Title: Wireless Control and Network Optimization*

Chair:

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**Analysis of Electronic Countermeasures and Exploration of Cognitive Techniques**

**No. 352364**

Jialei Sun, Xi Wang, Chenyu Li, Shuo Shi

(Harbin Institute of Technology)

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**Base Station Location Optimization Framework Based on Digital Twins for 6G Networks**

**No. 352506**

Zongxuan Sha, Ru Huo, Tao Huang

(Beijing University of Technology)

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**Modeling and Optimization of Random Access in NB-IoT Network with Heterogeneous Users**

**No. 352283**

Haiheng Ye, Peiran Wu

(Sun Yat-sen University)

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**Research on Routing Algorithm of Space-Air Integrated Networks**

**No. 352363**

Kexin Zhang, Zhongyu Yin, Tong Liu Shuo Shi

(Harbin Institute of Technology)

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**Research on Statistical Priority-Based Multiple Access Protocol in Mobile Ad Hoc Networks**

**No. 352362**

Han Li<sup>1</sup>, Shouming Wei<sup>1</sup>, Cheng Zhang, Shuo Shi

(Harbin Institute of Technology)

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<b>S2</b>	11:10 AM – 12:30 PM (Sat. 19 October 2024)
	<i>Title: Edge Computing and Resource Allocation</i>
	Chair:
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<b>No. 352387</b>	<b><u>Deep Reinforcement Learning for Cache Allocation of Multi-Cloud Content Providers in Mobile Edge-Cloud Computing Networks</u></b>
	Gang Wang, Jinlong Hao, Guozeng Xu, Jian Tang, Xiuhua Li, Penghua Li (Chongqing University)
<hr/>	
<b>No. 352118</b>	<b><u>HCTRL: Hierarchical Clustering Tree Reinforcement Learning Algorithm for Efficient Content Caching</u></b>
	Ruohan Shi, Zihong Ming, Qilin Fan, Xiuhua Li, Kai Wang, Xiang Deng (Chongqing University)
<hr/>	
<b>No. 352121</b>	<b><u>Multivariate Time Series Anomaly Detection Based on Device-Edge-Cloud Collaboration in Internet of Things</u></b>
	Yinkang Xu, Haowei Li, Zhiying Xiong, Qilin Fan, Xiuhua Li, Cheng Zhang (Chongqing University)
<hr/>	
<b>No. 352173</b>	<b><u>Reinforcement learning-based computation offloading and resource allocation optimization in multi-access edge computing environment</u></b>
	Yi Zhang, Ran Wang, Yidan Teng, Qiang Wu, Jie Hao (Nanjing University of Aeronautics and Astronautics)

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**S3**

1:30 PM – 3:10 PM (Sat. 19 October 2024)

*Title: Intelligent Systems and Simulation*

Chair:

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**UAV topology control method based on fuzzy C-clustering algorithm**

**No. 352361** Jiajie Guo, Jian He, Dawei Chen, Shuo Shi  
(Harbin Institute of Technology)

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**Research on Joint Optimization Model of Drone Trajectory and Power for SAGIN Swarm Intelligence Technology**

**No. 352381** Zhenyu Xu, XiuLian Lin, XinLu Li  
(Huizhou Engineering Vocational College)

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**Research on the Application of LoRa Technology in Intelligent Ranch Environmental Monitoring System**

**No. 352379** Yanhong Zhang, Zhenyu Xu, Jingzhong Li  
(Huizhou Engineering Vocational College)

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**Simulation and Analysis of Harmonic Reducer Dynamics Based on Adams**

**No. 352360** Zhenduo Fan  
(Heilongjiang Polytechnic)

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**V2V Communication Systems for Advanced Truck Platooning at Freight Hubs**

**No. 352388** Tao Song, Jinlong Hao, Luxi Cheng, Hui Li, Xiuhua Li, Penghua Li  
(Chongqing University)

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	3:25 PM – 5:05 PM (Sat. 19 October 2024)
<b>S4</b>	<b><i>Title: Artificial Intelligence and Digital Economy</i></b>
	Chair:
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	<b><u>A Software-Hardware Co-Design Platform for Convolutional Neural Network Accelerator with Tengine</u></b>
<b>No. 352587</b>	Zhiwei Liu, Shangwen Sui, Wanyu Lu, Bin Yu, Ao Li  (Harbin University of Science and Technology)
	<hr/>
	<b><u>Personalized Federated Learning Algorithm based on Shuffle Differential Privacy</u></b>
<b>No. 352372</b>	Ruifeng Zhao, Jiangang Lu, Zufeng Hou, Yong Zhang, Chao Wang,  Jiantian Chen, Kaiyan Pan, Haixin Liu  (Guangdong Power Grid Co., Ltd)
	<hr/>
	<b><u>Research and Design of Tomato Detection Accelerator Based on FPGA</u></b>
<b>No. 352588</b>	Bin Yu, Wanyu Lu, Shangwen Sui, Zhiwei Liu, Ao Li  (Harbin University of Science and Technology)
	<hr/>
	<b><u>Research on the Role of Fiscal Deficit in the Impact of Digital Inclusive Finance on Economic Growth</u></b>
<b>No. 352293</b>	Xiaofeng Zhang, Fangfang, Ji  (Harbin University of Commerce)
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	<b><u>The Impact of E-commerce on the Consumption Level of Chinese Residents under the Background of Communication Network Technology</u></b>
<b>No. 352294</b>	Xiaofeng Zhang, Weiyun Song  (Harbin University of Commerce)

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