

Jiashu Wu

Ph.D., University of Chinese Academy of Sciences

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EDUCATION

University of Chinese Academy of Sciences

Beijing & Shenzhen, China

Doctor of Philosophy in Computer Science

Sept 2021 - Jul 2024

Research topic: Domain adaptation-based IoT intrusion detection, Advisor: Prof. Yang Wang, GPA: 3.98 (91.7)

Faculty: Shenzhen Institute of Advanced Technology, Chinese Academy of Sciences

University of Melbourne

Melbourne, Australia

Master of Information Technology (with Distinction)

Mar 2019 - Dec 2020

Major: Artificial Intelligence, Advisor: Prof. Rui Zhang, GPA: 4.0 (88.1, First Class Honour, top 2%)

University of Sydney

Sydney, Australia

Bachelor of Science

Jan 2016 - Dec 2018

Double Major: Computer Science, Financial Mathematics & Statistics, Advisor: Prof. Simon Poon

GPA: 3.96 (86.5, High Distinction, top 2%)

Beijing Institute of Technology

Beijing, China

Major: Software Engineering, transferred to USYD in 2016 (Verified via Chsi.com)

Sept 2015 - Jan 2016

RESEARCH INTERESTS

Tackling IoT intrusion detection via domain adaptation. Design accurate and efficient algorithms for data-scarce scenarios such as unsupervised and open-set DA. Challenges including domain heterogeneities and the avoidance of under-transfer and negative-transfer.

Key skills: Network data analysis, intrusion detection, feature engineering, transfer learning, statistical analysis, performance optimisation, paper and patent writing.

PUBLICATIONS

I have published **9 CCF-A/JCR Q1 papers** and have 3 IEEE/ACM Trans/CCF-A papers under review. I have **8 patents being granted** and 11 patents under examination. **Key topics:** Network data analysis, transfer learning, IoT security, data caching and storage, etc. Below are selected publications.

1. Adaptive Bi-Recommendation and Self-improving Network for Heterogeneous Domain Adaptation-assisted IoT Intrusion Detection
Jiashu Wu, Yang Wang[✉], Hao Dai, Chengzhong Xu, Kenneth B. Kent
IEEE Internet of Things Journal (IEEE IoTJ, JCR Q1, IF=10.6), 2023
2. Heterogeneous Domain Adaptation for IoT Intrusion Detection: A Geometric Graph Alignment Approach
Jiashu Wu, Hao Dai, Yang Wang[✉], Kejiang Ye, Chengzhong Xu
IEEE Internet of Things Journal (IEEE IoTJ, JCR Q1, IF=10.6), 2023
3. Cost-Efficient Sharing Algorithms for DNN Model Serving in Mobile Edge Networks
Hao Dai, **Jiashu Wu**, Yang Wang[✉], Jerome Yen, Yong Zhang, Chengzhong Xu
IEEE Transactions on Services Computing (IEEE TSC, CCF-A, IF=11.0), 2023
4. Joint Semantic Transfer Network for IoT Intrusion Detection
Jiashu Wu, Yang Wang[✉], Binhui Xie, Shuang Li, Hao Dai, Kejiang Ye, Chengzhong Xu
IEEE Internet of Things Journal (IEEE IoTJ, JCR Q1, IF=10.6), 2022
5. PackCache: An Online Cost-driven Data Caching Algorithm in the Cloud
Jiashu Wu, Hao Dai, Yang Wang[✉], Yong Zhang, Dong Huang, Chengzhong Xu
IEEE Transactions on Computers (IEEE TC, CCF-A, IF=3.7), 2022

6. Simultaneous Semantic Alignment Network for Heterogeneous Domain Adaptation
Shuang Li, Binhui Xie, **Jiashu Wu**, Ying Zhao, Chi Harold Liu[✉], Zhengming Ding
ACM International Conference on Multimedia (ACM MM, CCF-A), 2020, Seattle, WA, USA
7. Towards Scalable and Efficient Deep-RL in Edge Computing : A Game-based Partition Approach
Hao Dai, **Jiashu Wu**, Yang Wang[✉], Chengzhong Xu
Journal of Parallel and Distributed Computing (JPDC, JCR Q1, IF=3.8), 2022
8. Open Set Dandelion Network for IoT Intrusion Detection
Jiashu Wu, Hao Dai, Yang Wang[✉], Kenneth B. Kent, Chengzhong Xu
Under review at *ACM Transactions on Internet Technology (ACM TOIT, JCR Q1, IF=5.3)*, 2023
9. HI-CPT: Towards Verifiable IoT Intrusion Detection under Data-scarce Heterogeneous Environment
Jiashu Wu, Hao Dai, Yang Wang[✉], Kejiang Ye, Chengzhong Xu
Under review at *IEEE Transactions on Cybernetics (IEEE TCYB JCR Q1, IF=11.8)*, 2023

AWARD

- Outstanding Student, University of Chinese Academy of Sciences, 2022
- Dean's Honours List, University of Melbourne, 2019
- Dean's List of Excellence in Academic Performance, University of Sydney, 2018 & 2017

EXPERIENCE

Software Engineer at Melbourne eResearch Group, Melbourne Australia Mar 2020 - July 2020
Develop a meeting diarisation Android app for research purposes. Key skills including Java programming, Git code management and the interaction with Google ML Speech API.

Student Intern at Beijing Institute of Technology, Beijing China Nov 2019 - May 2020
Carry out research on domain adaptation and propose a novel simultaneous semantic alignment network. Key skills including DL algorithm design, Python programming and research paper writing (work published in ACM MM'20).

Research and Development Engineer at University of Melbourne, Melbourne Australia Jul 2019 - Nov 2019
Develop an academia searching platform under the challenging data-scarce condition. Key skills including Python programming, NLP data processing and recommender system algorithm design.

Dalyell Scholar Program at University of Sydney, Sydney Australia Mar 2018 - Jul 2018
Carry out research on Parkinson disease detection based on drawing patterns and develop an Android app for drawing data collection. Key skills including Java programming and database management.

SKILLS

Programming Skill: Python, Java, SQL

Language Skill: English (IELTS Academic 7.0, live and study in Australia for 5 years), Mandarin Chinese (Native Speaker)