

Jiashu Wu

Ph.D. Student, University of Chinese Academy of Sciences

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EDUCATION

University of Chinese Academy of Sciences

Beijing, China

Doctor of Philosophy in Computer Science

Sept 2021 - Jun 2024 (Expected)

Research topic: domain adaptation-based IoT intrusion detection, advisor: Prof. Yang Wang

University of Melbourne

Melbourne, Australia

Master of Information Technology (with Distinction)

Jan 2019 - Dec 2020

Major: Artificial Intelligence, advisor: Prof. Rui Zhang, average mark: 88.1 (First Class Honour, top 2%)

University of Sydney

Sydney, Australia

Bachelor of Science

Jan 2016 - Dec 2018

Major: Computer Science, Financial Mathematics & Statistics, advisor: Prof. Simon Poon, average mark: 86.5 (High Distinction, top 2%)

Beijing Institute of Technology

Beijing, China

Major: Software Engineering, transferred to USYD in 2016

Aug 2015 - Jan 2016

RESEARCH INTERESTS

My research interest focuses on applying domain adaptation (DA) to enhance the efficacy of IoT intrusion detection. The DA techniques I studied including heterogeneous DA, multi-source DA, semi-supervised DA, unsupervised DA, open-set DA, etc.

PUBLICATIONS (FULL LIST: GOOGLE SCHOLAR)

I: IoT Intrusion Detection via Domain Adaptation and its Efficiency Improvement

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), IF: 10.24), 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), IF: 10.24), 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), IF: 11.02), 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), IF: 10.24), 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), IF: 3.18), 2022
6. 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), IF: 4.54), 2022

7. Multi-Scenario Bimetric-Balanced IoT Resource Allocation: An Evolutionary Approach
Jiashu Wu, Hao Dai, Yang Wang[✉], Zhiying Tu
IEEE International Conference on High Performance Computing and Communications (IEEE HPCC), 2022
8. 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, IS: 12.9), 2020, Seattle, Washing, USA
9. 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, IF: 3.99)*, 2023

II: Thesis

10. Research on IoT Intrusion Detection via Domain Adaptation Approach
Ph.D Thesis at the University of Chinese Academy of Sciences
11. Learning to Rank with Small Set of Ground Truth Data
Master Thesis at the University of Melbourne

III: Patents

Five Chinese patents already be granted and 14 Chinese patents under examination

AWARD

- Outstanding Student, University of Chinese Academy of Sciences, 2022
- Graduate with Distinction, University of Melbourne, 2020
- 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, Matlab, SQL, R

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