

# JUNXIAO WANG

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## INTRODUCTION

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I currently hold the position of **Postdoctoral Researcher** at **PolyU**.  
My area of expertise is **machine learning** and **systems**, with a particular focus on federated learning, trustworthy machine learning and networking.

## WORK EXPERIENCE

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- King Abdullah University of Science and Technology, CEMSE, *PostDoc*** 2023.03 - Now  
Project: Interdisciplinary Research encompassing Machine Learning, Fairness, Privacy, and Security.  
Lab: Privacy-Awareness, Responsibility and Trustworthy Lab Director: Prof. Dr. Di Wang
- The Hong Kong Polytechnic University, COMP, *PostDoc*** 2021.03 - 2023.03  
Project: Federated Learning over Mobile Edge Networks, Machine Learning Governance.  
Lab: PolyU Edge Intelligence Lab Director: Prof. Dr. Song Guo

## TECHNICAL SKILLS

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I possess advanced knowledge and expertise in the field of Machine Learning, including but not limited to Federated Learning, Machine Unlearning, Gradient Inversion, Backdoors, Prompt Learning, and Diffusion Models. Additionally, I am proficient in Distributed Networking Systems, including Software-Defined Networks, Network Functions Virtualization, and Cloud. I am also skilled in various techniques and tools such as Linux, PyTorch, and OpenStack.

## EDUCATION

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- Dalian University of Technology, Computer Technology Application, *PhD*** 2016.09 - 2020.12  
Thesis: Research on Techniques of Performance Guarantee for Software Defined Network.  
Function Virtualization System Supervisor: Prof. Dr. Keqiu Li
- Queen Mary University of London, EECS, *CSC Funded Joint PhD Student*** 2018.10 - 2019.10  
Project: Enhancing Cloud Datacenter through Software-Defined Networking.  
Lab: Networks Research Group Supervisor: Prof. Dr. Steve Uhlig
- Dalian University of Technology, Computer Systems Organization, *MEng*** 2014.09 - 2017.07  
Thesis: Research on Request Dispatching for Multi-Controllers in Software Defined Networking.  
Program: Master-PhD Combined Program Supervisor: Prof. Dr. Keqiu Li
- Dalian Maritime University, Software Engineering, *BE*** 2010.09 - 2014.06  
Thesis: Research on Load Balancing Mechanism Based on Floodlight Controller Platform.  
Graduate with Honors: Waivers of National Postgraduate Entrance Examination (NPEE)

## HONORS AND AWARDS

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- The Hong Kong Polytechnic University Postdoc Matching Fund 2020.12
- China Scholarship Council Joint PhD Fellowship 2018.06
- Outstanding Postgraduate of Dalian University of Technology 2015.12
- Final First Prize and Best Creative Award of National University SDN Competition 2015.08
- MCM/ICM Media Contest Outstanding Winner 2013.05

## PEER-REVIEWED PUBLICATIONS

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(Note: “†” marks the corresponding authors.)

- Tao Guo, Song Guo, **Junxiao Wang**<sup>†</sup>. pFedPrompt: Learning Personalized Prompt for Vision-Language Models in Federated Learning. ACM The Web Conference (WWW) 2023.
- Leijie Wu, Song Guo, **Junxiao Wang**<sup>†</sup>, Zicong Hong, Jie Zhang, Yaohong Ding. Federated Unlearning: Guarantee the Right of Clients to Forget. IEEE Network 2022.

- Xin Xie, Xiulong Liu, **Junxiao Wang**, Song Guo, Heng Qi, Keqiu Li. Efficient Integrity Authentication Scheme for Large-scale RFID Systems. IEEE Transactions on Mobile Computing (TMC) 2022.
- Rui Zhang, Song Guo, **Junxiao Wang**<sup>†</sup>, Xin Xie, Dacheng Tao. A Survey on Gradient Inversion: Attacks, Defenses and Future Directions. International Joint Conference on Artificial Intelligence (IJCAI) 2022, Survey track.
- **Junxiao Wang**, Song Guo, Xin Xie, Heng Qi. Federated Unlearning via Class-Discriminative Pruning. ACM The Web Conference (WWW) 2022.
- **Junxiao Wang**, Song Guo, Xin Xie, Heng Qi. Protect Privacy from Gradient Leakage Attack in Federated Learning. IEEE International Conference on Computer Communications (INFOCOM) 2022.
- **Junxiao Wang**, Heng Qi, Keqiu Li, Steve Uhlig. Click-UP: Towards the Software Upgrade of Click based Modular Network Function. IEEE Systems Journal (ISJ) 2020.
- **Junxiao Wang**, Yuchen Huang, Heng Qi, Keqiu Li, Steve Uhlig. CLICK-UP: Towards Software Upgrades of Click-driven Stateful Network Element. ACM SIGCOMM Conference 2018, Demo track.

## SERVICE EXPERIENCE

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### Academic Services

Peer-Review of INFOCOM, CVPR, JSAC, TNET, CSUR, IoTJ, TNSM, etc.

Session Chair of IEEE International Conference on Parallel and Distributed Systems (ICPADS) 2019

### Student Teaching

Shepherd of PhD Students in The Hong Kong Polytechnic University and Queen Mary University of London

Shepherd of Postgraduate Students in Dalian University of Technology

## TALKS

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### Invited Talks

Title: Privacy Protection in Federated Learning	
Ritsumeikan University & CCF Dalian International Seminar   Online	2022.03

### Conference Talks

Title: Protect Privacy from Gradient Leakage Attack in Federated Learning	
IEEE International Conference on Computer Communications (INFOCOM)   Online	2022.05

Title: Federated Unlearning via Class-Discriminative Pruning	
ACM The Web Conference (WWW)   Online	2022.04

Title: CLICK-UP: Towards Software Upgrades of Click-driven Stateful Network Elements	
ACM SIGCOMM Conference, Demo Track   Budapest, Hungary	2018.08

### Competition Talks

Title: Centrally Coordinated Replica Selection Architecture in Multi-Controller SDN	
The 2nd National University SDN Competition Final   SCUT, Guangzhou	2015.08

## REFEREES

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Prof. Dr. Di Wang, CEMSE, KAUST, di.wang@kaust.edu.sa

Prof. Dr. Song Guo, COMP, PolyU, song.guo@polyu.edu.hk

Prof. Dr. Steve Uhlig, EECS, QMUL, steve.uhlig@qmul.ac.uk

Prof. Dr. Keqiu Li, CIC, TJU, keqiu@tju.edu.cn

Prof. Dr. Heng Qi, CS, DUT, hengqi@dlut.edu.cn