JUNXIAO WANG

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INTRODUCTION

I currently hold the position of **Postdoctoral Fellow** at **KAUST**.
My area of expertise is **machine learning** and **systems**, with a focus on FL, trustworthy ML and networking.

WORK EXPERIENCE

King Abdullah University of Science and Technology, CEMSE, *PostDoc*   2023.02 - Now

>   Project: Interdisciplinary Machine Learning Research encompassing Fairness, Privacy and Security.
>   Lab: KAUST Provable Responsible AI and Data Analytics Lab   Director: Prof. Dr. Di Wang

The Hong Kong Polytechnic University, COMP, *PostDoc*   2021.03 - 2023.02

>   Project: Federated Learning over Mobile Edge Networks, Machine Learning Governance.
>   Lab: PolyU Edge Intelligence Lab   Director: Prof. Dr. Song Guo

TECHNICAL SKILLS

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

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, *Visiting Student*   2018.10 - 2019.09

>   Program: China Scholarship Council (CSC)-Funded Joint PhD Program.
>   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

The Hong Kong Polytechnic University Postdoc Matching Fund	2020.12
China Scholarship Council Joint PhD Scholarship	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

REFEREED PAPERS

(Note: "†" marks the corresponding authors.)

- Yunfeng Fan, Wenchao Xu, Haozhao Wang, **Junxiao Wang**, Song Guo. PMR: Prototypical Modal Rebalance for Multimodal Learning. IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR) 2023.
- Tao Guo, Song Guo, **Junxiao Wang**†. pFedPrompt: Learning Personalized Prompt for Vision-Language Models in Federated Learning. The ACM Web Conference (WWW) 2023.

- Leijie Wu, Song Guo, **Junxiao Wang**[†], 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**[†], Xin Xie, Dacheng Tao. A Survey on Gradient Inversion: Attacks, Defenses and Future Directions. International Joint Conference on Artificial Intelligence (IJCAI) 2022.
- **Junxiao Wang**, Song Guo, Xin Xie, Heng Qi. Federated Unlearning via Class-Discriminative Pruning. The ACM 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).

SERVICE EXPERIENCE

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

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

The ACM 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

Titile: Centrally Coordinated Replica Selection Architecture in Multi-Controller SDN

The 2nd National University SDN Competition Final | SCUT, Guangzhou   2015.08

REFEREES

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