Guanchu Wang

E-mail: guanchu.wang@rice.edu
Phone number: +1 8328759593

PERSONAL PROFILE

I am currently a PhD. student in Rice University supervised by Professor Prof. Xia Hu. Before joining Rice University, I was working as a research assistant in Texas A&M University (Prof. Xia Hu group) in 2020 and Westlake University (Professor Donglin Wang group) in 2019. From 2012 to 2019, I recevied B.S. degree from Dalian University of Technology (DUT) and M.S. degree from University of Science and Technology of China (USTC), where I was fortunate for having been supervised by Prof. Chen Gong.

My research focus on efficient and trustworthy AI which involves improving the efficiency, explainability and fairness of deep learning; my previous research also involves anomaly detection, deep reinforcement learning and signal processing; beyond research perspective, I am also interested in the opensource development of machine learning.

EDUCATION

1. **Rice University, Texas, United State.**
   Computer Science, 09/2021 - now
2. **Texas A&M University (TAMU), Texas, United State.**
   Electrical & Computer Engineering, 09/2020 - 08/2021.
3. **University of Science and Technology of China (USTC), Anhui, P.R.C.**
   M.S. in Information Science and Technology, 09/2016 - 06/2019.
4. **Dalian University of Technology (DUT), Liaoning, P.R.C.**
   B.S. in Information and Communication Engineering, 09/2012 - 06/2016.

RESEARCH EXPERIENCES

1. **Rice University, Texas, United State.** Graduate research assistance, 09/2021 - now
   - Efficient deep learning.
   - Explainable machine learning.
2. **Texas A&M University, Texas, United State.** Graduate research assistance, 09/2020 - 08/2021
   - Time-series anomaly detection.
   - Fairness in deep learning.
3. **Westlake University, Zhejiang, P.R.C.** Research assistance, 10/2019 - 01/2020
   - Deep reinforcement learning

PUBLICATIONS & PREPRINTS

1. **Guanchu Wang**, Yu-Neng Chuang, Mengnan Du, Fan Yang, Quan Zhou, Pushkar Tripathi, Xuanting Cai and Xia Hu. "Accelerating Shapley Explanation via Contributive Cooperator Selection." International Conference on Machine Learning, ICML 2022.
2. **Guanchu Wang**, Zaid Pervaiz Bhat, Zhimeng Jiang, Yi-Wei Chen, Daochen Zha, Alfredo Costilla Reyes, Afshin Niktash, Gorkem Ulkar, Erman Okman, Xia Hu. "BED: A Real-Time Object Detection System for Edge Devices."
3. Mengnan Du, Subhabrata Mukherjee, **Guanchu Wang**, Ruixiang Tang, Ahmed Hassan Awadallah, and Xia Hu, "Fairness via Representation Neutralization." Neural Information Processing Systems, NeurIPS 2021.
4. Kwei-Herng Lai, Daochen Zha, Junjie Xu, Yue Zhao, **Guanchu Wang**, and Xia Hu, "Revisiting Time Series Outlier Detection: Definitions and Benchmarks." Neural Information Processing Systems, NeurIPS 2021.
5. Qiangxing Tian, Jinxin Liu, **Guanchu Wang**, and Donglin Wang, "Learning Transitional Skills with Intrinsic Motivation." International Joint Conference on Neural Networks, IJCNN 2021.
6. Kwei-Herng Lai*, Daochen Zha*, **Guanchu Wang**, Junjie Xu, Yue Zhao, Devesh Kumar, Yile Chen, Purav Zumkhawaka, Minyang Wan, Diego Martinez, Xia Hu, "TODS: An Automated Time Series Outlier Detection System." AAAI Conference on Artificial Intelligence, demo track, AAAI 2021.
7. Zhimeng Jiang, Chen Gong, **Guanchu Wang**, and Zhengyuan Xu. "On the Achievable Rate and Capacity for a Sample-based Practical Photon-counting Receiver." IEEE Transaction on Communication, TCOM 2021.
8. Qiangxing Tian, **Guanchu Wang**, Jinxin Liu, and Donglin Wang, "Independent Skill Transfer for Deep Reinforcement Learning." International Joint Conference on Artificial Intelligence, IJCAI 2020.
9. **Guanchu Wang**, Chen Gong, Zhimeng Jiang, and Zhengyuan Xu, "Multi-layer Superimposed Transmission for Optical Wireless Scattering Communication." IEEE Photonics Journal, PJ 2019.
10. **Guanchu Wang**, Chen Gong, and Zhengyuan Xu, "Signal Characterization for Multiple Access Non-line of Sight Scattering Communication." IEEE Transaction on Communication, TCOM 2018.
11. **Guanchu Wang**, Kun Wang, Chen Gong, Difan Zou, Zhimeng Jiang, and Zhengyuan Xu, "A 1Mbps Real-time NLOS UV Scattering Communication System with Receiver Diversity over 1km." IEEE Photonics Journal, PJ 2018.
12. **Guanchu Wang**, Chen Gong, and Zhengyuan Xu, "Signal detection and achievable rates for multiple access optical wireless scattering communication." IEEE Global Communications Conference, Globecom 2017.