ZHICHAO HOU

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EDUCATION

North Carolina State University, Raleigh, United States *09/2023 - Present*
- PhD in Computer Science
- Advisor: Xiaorui Liu

Academy of Mathematics and Systems Science, Beijing, China *09/2020 - 06/2023*
- MS in Applied Mathematics
- Advisor: Lingyu Wu

Beijing Normal University, Beijing, China *09/2016 - 06/2020*
- BS in Applied Mathematics

RESEARCH INTERESTS

- Adversarial attacks and defenses
- Graph Neural Networks
- AI for Science

SCHOLARSHIPS & AWARDS

First-class scholarship of Beijing Normal University *2017, 2018, 2019*

Champion of Mingyue Cup Basketball Match of Beijing Normal University *2017, 2018*

Second-class prize of BNU Mathematical Modeling Contest *2018*

First-class prize of National Mathematical Modeling Contest *2018*

Third-class prize of National Mathematics Competition *2018*

Honorable Mention of MCM *2019*

Outstanding graduates in Beijing Normal University *2020*

RESEARCH EXPERIENCE

Department of Computer Science, North Carolina State University 03/2023 - Present
Research Assistant

· Topic: Adversarial attacks and defenses
· Advisor: Prof. Xiaorui Liu

Search Strategy Group, Baidu Inc. 06/2023 - 09/2023
Research Intern

· Topic: Sparse Coding in Computer Vision
· Advisor: Dr. Hao Wang & Xiaochi Wei

Institute for AI Industry Research, Tsinghua University 05/2022 - 12/2022
Research Assistant

· Topic: Equivariant Spatio-Temporal Attentive Graph Networks

· Advisor: Prof. Wenbing Huang

Wu Lab, Academy of Mathematics and Systems Science 09/2021 - 06/2023
Research Assistant

· Topic: Deep Learning in Bioinformatics
· Advisor: Prof. Lingyun Wu

PUBLICATIONS & MANUSCRIPTS

Note: * indicates equal contribution

- **Zhichao Hou**, Xitong Zhang, Wei Wang, Charu C. Aggarwal, Xiaorui Liu.
Can Directed Graph Neural Networks be Adversarially Robust?
Submitted to International Conference on Learning Representations (**ICLR**) 2024.
- Ruiqi Feng, **Zhichao Hou**, Tyler Derr, Xiaorui Liu.
Robust Graph Neural Networks via Unbiased Aggregation.
Submitted to International Conference on Learning Representations (**ICLR**) 2024.
- Weizhi Gao*, **Zhichao Hou***, Han Xu, Xiaorui Liu.
Certified Robustness for Deep Equilibrium Models via Serialized Random Smoothing.
Submitted to Conference on Computer Vision and Pattern Recognition (**CVPR**) 2023.
- Wendi Yu, **Zhichao Hou**, Xiaorui Liu.
Automated Polynomial Filter Learning for Graph Neural Networks.
Submitted to Conference on Information and Knowledge Management (**CIKM**) 2023.
- **Zhichao Hou***, Liming Wu*, Jirui Yuan, Yu Rong, Wenbing Huang.
Equivariant Spatio-Temporal Attentive Graph Networks to Simulate Physical Dynamics.
Annual Conference on Neural Information Processing Systems (**NeurIPS**) 2023
- **Zhichao Hou**, Jiacheng Leng, Jiating Yu, Zheng Xia, Ling-Yun Wu.
PathExpSurv: Pathway Expansion for Explainable Survival Analysis and Disease Gene Discovery.
BMC Bioinformatics 2023.
- Jiating Yu, Duanchen Sun, **Zhichao Hou**, Ling-Yun Wu.
Single-Cell ATAC-seq analysis via Network Refinement with peaks location information.
Briefings in Bioinformatics 2023.

INDUSTRIAL EXPERIENCE

Spatial-Temporal Attentional GNN in Traffic Flow Prediction Mentor: Prof. Wenbing Huang
Intelligent Transportation Department, Baidu *12/2021 - 03/2022*

Financial Time Series Data Generation with SigCWAN Mentor: Dr. Ge Wang
AI-Quant Ltd, Beijing *06/2021 - 09/2021*