Hongyi Ling

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RESEARCH INTERESTS

Graph Deep Learning: Graph neural networks, 3D graphs.
Trustworthy AI: Fairness, Explainable AI.
Causal Machine Learning: Causal fairness, Causal explanations.

EDUCATION

Texas A&M University, College Station, TX, USA **Aug 2021 - Present**
Ph.D. in Computer Science & Engineering
Advisor: Prof. Shuiwang Ji

University of California San Diego, La Jolla, CA, USA **Sep 2019 - Jun 2021**
Master of science in computer science
Advisor: Prof. Henrik I. Christensen

Nanjing University, Nanjing, Jiangsu, China **Sep 2015 - Jun 2019**
Bachelor of Science in Computer Science & Technology
National Elite Program of Computer Science(for top 20 students)
Advisor: Prof. Limin Wang

EXPERIENCE

The DIVE Lab, TAMU University, Collge Station, TX, USA **Aug 2021 - Present**
Graduate Student Researcher
•Develop a novel automated graph augmentation method for fair graph representation learning.
•Propose a pairwise graph augmentation method to improve the generalization and robustness of GNNs.
•Introduce a causal model with hidden confounders on graphs to achieve fairness by counterfactual generation.

Amazon Web Services, Cupertino, CA, USA **Jun 2020 - Sep 2020**
Software Development Engineer Intern
•Build an API layer over the network controller system; Improve the robustness of APIs; Set up four metrics to monitor the status of APIs

Cognitive Robotics Laboratory, UC San Diego, La Jolla, CA, USA **Feb 2020 - Sep 2020**
Graduate Student Researcher
•Aim at estimating the 6D pose of specular and symmetrical objects; Use a coarse-to-fine strategy to propose a cascaded neural network framework with a novel loss function.

Multimedia Computing Group, Nanjing University, Nanjing, Jiangsu, China **Oct 2018 - May 2019**
Research Assistant
•Adopt Siamese Network to separate target objects from a video sequence.

PUBLICATIONS

H. Ling, Z. Jiang, M. Liu, S. Ji, N. Zou, "Graph Mixup with Soft Alignments", International Conference on Machine Learning (ICML), 2023.

H. Ling, Z. Jiang, Y. Luo, S. Ji, N. Zou, "Learning Fair Graph Representations via Automated Data Augmentations", International Conference on Learning Representations (ICLR), 2023. Spotlight/Notable-top-25%. (Acceptance rate 8.0%)

PREPRINTS

X. Zhang, … , **H. Ling**, … , S. Ji (63 authors), "Artificial Intelligence for Science in Quantum, Atomistic, and Continuum Systems".

H. Ling, Z. Jiang, N. Zou, S. Ji, "Counterfactual Fairness on Graphs: Augmentations, Hidden Confounders, and Identifiability".

C. Fu, X. Zhang, H. Zhang, **H. Ling**, S. Xu, S. Ji, "Lattice Convolutional Networks for Learning Ground States of Quantum Many-Body Systems".

J. Hu, **H. Ling**, P. Parashar, A. Naik, H. Christensen, "Pose Estimation of Specular and Symmetrical Objects".

AWARDS & HONORS

- Travel Grant, CSE@TAMU **2023**
- TAMIDS Travel Grant **2023**
- Third Prize Scholarship of National Elite Program **2018**
- Special Prize Scholarship of National Elite Program **2016,2017**
- Bronze Medal in ACM/China Collegiate Programming Contest(CCPC) **2016,2017**

SERVICES

Program Committee Member | Reviewer

International Conference on Machine Learning (ICML) **2023**
Learning on Graphs Conference (LoG) **2023**
Conference on Neural Information Processing System (NeurIPS) **2023**
Transactions on Intelligent Systems and Technology (ACM TIST)