Shichang Zhang

Contact Information

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Education

University of California, Los Angeles — Los Angeles, CA
Ph.D. in Computer Science (Advisor: Yizhou Sun) — Expected: 2024

Stanford University — Stanford, CA
M.S. in Statistics, GPA: 3.95 — Apr. 2019

University of California, Berkeley — Berkeley, CA
B.A. in Statistics, GPA: 3.92 — May 2017
Honors: Honors in Statistics, High Distinction

Professional Experience

Applied Scientist Intern — June 2022 - Oct. 2022
Amazon Web Service (AWS), Graph Machine Learning Team — Santa Clara, CA

- Proposed a new framework to explain GNN link prediction for recommendation on graph data, which improves user trust in the model and helps developers to debug the model.
- The implemented framework turns into a new module in the Deep Graph Library (DGL) code base and will be incorporated into the Amazon Neptune ML project in production.

Research Intern — June 2021 - Sept. 2021
Snap Inc, Computational Social Science Team — Los Angeles, CA

- Proposed a cross-model distillation framework to transfer knowledge from GNNs to MLPs, which speeds up model inference a by 179 times and facilitate model deployment on latency-constraint applications. Work published in ICLR 2022.
- Worked on condensing large-scale training graphs to small synthetic graphs by over 90% reduction rate while maintaining competitive model performance for GNNs trained from scratch, which significantly saves storage space and achieves efficient continue learning. Work published in ICLR 2022.

Data Scientist Intern — June 2019 - Sept. 2019
WeWork, Research and Applied Science Team — Palo Alto, CA

- Implemented a data processing pipeline in SQL and Python for data querying, data cleaning, and feature engineering.
- Trained a Gradient Boosted Tree model on two million customer data to predict occupancy rate for WeWork buildings and achieved 0.093 MAE on the test set.
- Presented the pricing model as a selected outstanding project to the Research and Applied Science team including the VP.

Research Interests

Graph Neural Networks (GNNs), Explainable AI, Efficient Machine Learning, Self-Supervised Learning, Generative Models, and Bayesian Deep Learning

Publications

Shichang Zhang, Atefeh Sohrabizadeh, Cheng Wan, Zijie Huang, Ziniu Hu, Yewen Wang, Linghao Song, Jason Cong, Yizhou Sun. "A Survey on Graph Neural Network Acceleration: Algorithms, Systems, and Customized Hardware" (preprint)

Shichang Zhang, Jiani Zhang, Xiang Song, Soji Adeshina, Da Zheng, Christos Faloutsos, Yizhou Sun. "PaGE-Link: Graph Neural Network Explanation for Heterogeneous Link Prediction" (**WWW 2023**)

Zhichun Guo, William Shiao, **Shichang Zhang**, Yozen Liu, Nitesh Chawla, Neil Shah, Tong Zhao. "Linkless Link Prediction via Relational Distillation" (preprint)

Yewen Wang, **Shichang Zhang**, Junghoo Cho, Yizhou Sun. "Laplacian Score Guided Adaptive Filter Selection for Graph Neural Networks" (preprint)

Shichang Zhang, Yozen Liu, Neil Shah, Yizhou Sun. "Explaining Graph Neural Networks with Structure-Aware Cooperative Games" (**NeurIPS 2022**)

Shichang Zhang, Yozen Liu, Yizhou Sun, Neil Shah. " Graph-less Neural Networks, Teach Old MLPs New Tricks via Distillation" (**ICLR 2022**)

Wei Jin, Lingxiao Zhao, **Shichang Zhang**, Yozen Liu, Jiliang Tang, Neil Shah. " Graph Condensation for Graph Neural Networks" (**ICLR 2022**)

Shichang Zhang, Ziniu Hu, Arjun Subramonian, Yizhou Sun. "Motif-driven Contrastive Learning of Graph Representations" (SSL@WWW2021)

Yewen Wang, **Shichang Zhang**, Ziniu Hu, Yusong Ye, Junghoo Cho, Yizhou Sun. "Adaptive Graph Neural Networks via Fisher Regularization-Guided Filter Integration" (Pre-print)

Shichang Zhang, Yancheng Li, Yiyang Li. "Machine Reading Comprehension with Hierarchical Attention and Stochastic Prediction Dropout" (Pre-print)

Academic Service

Conference Reviewer/Program Committee Member:
KDD 2020, 2023, NeurIPS 2021, 2022, ICML 2022 (Top 10% Reviewer), 2023, ICDM 2021, CIKM 2022, WSDM 2023, AAAI 2023, ECML-PKDD 2021
Journal Reviewer:
TPAMI, TKDD, TKDE

Honors and Awarded

Snap Research Fellowship Honorable Mention, 2022
ICML Top Reviewer (Top 10%), 2022
UCLA Graduate Division Fellowship, 2021

Teaching Experience

Teaching Assistant Sept. 2020 - Present
Department of Computer Science, UCLA Los Angeles, CA

- CS145: Introduction to Data Mining (Fall 2020, Fall 2021)
- CS32: Introduction to Computer Science II (Spring 2021)

Skills

Programming: Python (PyTorch, PyG, DGL), C++, C, R, Java, SQL
Operating system & Tools: Linux (Ubuntu), Git, Docker, Jupyter, LaTeX
Natural Language: Mandarin Chinese (Native), English (Proficient)