

Shichang Zhang

CONTACT INFORMATION	Address: 3320 Sawtelle Blvd, Los Angeles, CA 90066 E-mail: shichang@cs.ucla.edu Webpage: https://shichangzh.github.io/	
RESEARCH INTERESTS	Explainable AI, Large Language Models, Graph Data Mining, Data Valuation, and Model Efficiency	
EDUCATION	University of California, Los Angeles <i>Ph.D. in Computer Science</i>	Los Angeles, CA June 2024
	Stanford University <i>M.S. in Statistics</i>	Stanford, CA Apr. 2019
	University of California, Berkeley <i>B.A. in Statistics</i> Honors: Honors in Statistics, High Distinction	Berkeley, CA May 2017
HONORS AND AWARDS	KDD Excellence in Reviewing (30 in 1551) Amazon Fellowship J.P.Morgan Chase AI PhD Fellowship Snap Research Fellowship Honorable Mention ICML Top Reviewer (Top 10%) UCLA Graduate Division Fellowship	2023 2023 2023 2022 2022 2021
PUBLICATIONS	Conference Papers: Fred Xu, Song Jiang, Zijie Huang, Xiao Luo, Shichang Zhang , Yuanzhou Chen, and Yizhou Sun. “FUSE: Measure-Theoretic Compact Fuzzy Set Representation for Taxonomy Expansion”(ACL 2024 Findings) Haoyu Li*, Shichang Zhang* , Longwen Tang, Yizhou Sun. “Predicting and Interpreting Energy Barriers of Metallic Glasses with Graph Neural Networks” (ICML 2024, *equal contribution) Xiaoxuan Wang*, Ziniu Hu*, Pan Lu*, Yanqiao Zhu*, Jieyu Zhang, Satyen Subramaniam, Arjun R Loomba, Shichang Zhang , Yizhou Sun, Wei Wang. “SciBench Evaluating College-Level Scientific Problem-Solving Abilities of Large Language Models” (ICML 2024, *equal contribution) Yewen Wang, Shichang Zhang , Junghoo Cho, Yizhou Sun. “Laplacian Score Benefit Adaptive Filter Selection for Graph Neural Networks” (SDM 2024) Zhichun Guo, William Shiao, Shichang Zhang , Yozen Liu, Nitesh Chawla, Neil Shah, Tong Zhao. “Linkless Link Prediction via Relational Distillation” (ICML 2023) 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**)

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**)

Journal Papers:

Shichang Zhang*, Ziniu Hu*, Arjun Subramonian, Yizhou Sun. “Motif-driven Contrastive Learning of Graph Representations” (**TKDE**, *equal contribution)

Workshop Papers and Pre-prints:

Shichang Zhang, Da Zheng, Jiani Zhang, Qi Zhu, Xiang Song, Soji Adeshina, Christos Faloutsos, George Karypis, Yizhou Sun. “Hierarchical Compression of Text-Rich Graphs via Large Language Models” (pre-print)

Min Cai, Yuchen Zhang, **Shichang Zhang**, Fan Yin, Difan Zou, Yisong Yue, Ziniu Hu “Self-Control of LLM Behaviors by Compressing Suffix Gradient into Prefix Controller” (pre-print)

Shichang Zhang*, Botao Xia*, Zimin Zhang*, Qianli Wu*, Fang Sun, Ziniu Hu, Yizhou Sun. “Automated Molecular Concept Generation and Labeling with Large Language Models”(XAI4Sci@AAAI 2024, *equal contribution)

Junwei Deng*, Ting-Wei Li*, **Shichang Zhang**, Jiaqi Ma. “Efficient Ensembles Improve Training Data Attribution” (pre-print, *equal contribution)

Shichang Zhang, Atefeh Sohrabizadeh, Cheng Wan, Zijie Huang, Ziniu Hu, Yewen Wang, Yingyan (Celine) Lin, Jason Cong, Yizhou Sun. “A Survey on Graph Neural Network Acceleration: Algorithms, Systems, and Customized Hardware” (pre-print)

INVITED TALKS	Explainable AI for Graph Data and More AI4LIFE Group at Harvard	Feb 2024
	Graph Neural Network Explanation for Heterogeneous Link Prediction Amazon Trans.AI Research Talks	July 2023
	International World Wide Web Conference	May 2023
	Structure-Aware Graph Neural Network Explanation AI Time NeurIPS Talk Series	Feb 2023
	Graph-less Neural Networks NVIDIA GNN Reading Group	May 2022
TEACHING EXPERIENCE	Instructor , University of California, Los Angeles	

Teaching Assistant, University of California, Los Angeles

CS145: Introduction to Data Mining

Fall 2020, Fall 2021

CS32: Introduction to Computer Science II

Spring 2021

ACADEMIC
SERVICE**Conference Reviewer/Program Committee:**

KDD - ACM SIGKDD Knowledge Discovery and Data Mining	2020, 2023, 2024
NeurIPS - Advances in Neural Information Processing Systems	2021 - 2024
ICML - International Conference on Machine Learning	2022 - 2024
CIKM - ACM Conference on Information and Knowledge Management	2022 - 2023
AAAI - AAAI Conference on Artificial Intelligence	2023 - 2025
ICDM - IEEE International Conference on Data Mining	2021
WSDM - ACM International Web Search and Data Mining Conference	2023 - 2024
LOG - Learning on Graphs Conference	2023
ICLR - International Conference on Learning Representations	2024
SDM - SIAM International Conference on Data Mining	2024

Journal Reviewer:

TPAMI - IEEE Transactions on Pattern Analysis and Machine Intelligence

TKDD - ACM Transactions on Knowledge Discovery from Data

TKDE - IEEE Transactions on Knowledge and Data Engineering

TNNLS - IEEE Transactions on Neural Networks and Learning Systems

MENTORSHIP

Arjun Subramonian (UCLA undergrad → UCLA PhD)	Mar. 2020 - Mar. 2021
Haoyu Li (UCLA undergrad → UIUC PhD)	Mar. 2023 - Present
Qianli Wu (UCLA undergrad → Amazon SDE)	Mar. 2023 - Present
Botao Xia (UCLA undergrad → UCLA Master)	Oct. 2023 - Present
Zimin Zhang (UCLA undergrad → UIUC Master)	Oct. 2023 - Present
Gaotang Li (UMich undergrad → UIUC PhD)	Oct. 2023 - Present
Min Cai (Shenzhen University Master)	Nov. 2023 - Present
Karim Saraipour (UCLA master)	Apr. 2024 - Present

INDUSTRY WORK

EXPERIENCE

Amazon Web Service (AWS)

Santa Clara, CA

Applied Scientist Intern, Graph Machine Learning Team

June 2023 - Nov. 2023

- Proposed a framework for applying LLMs to text-rich graph data with hierarchical neighborhood compression, which allows LLMs to leverage the graph structure and handle long input text features gathered in a rich neighborhood.
- The proposed method outperformed traditional graph ML models on node classification benchmarks and will be incorporated into the Amazon DGL project.

Amazon Web Service (AWS)

Santa Clara, CA

Applied Scientist Intern, Graph Machine Learning Team

June 2022 - Oct. 2022

- Proposed a new framework to explain GNN link prediction for recommendation on graph data, which improves user trust in the model and helps developers debug the model. Work published in WWW 2023.

- The implemented framework will be incorporated into the Amazon Neptune ML project in production.

Snap Research

Research Intern, Computational Social Science Team

Los Angeles, CA

June 2021 - Sept. 2021

- Proposed a cross-model distillation framework to transfer knowledge from GNNs to MLPs, which speeds up model inference by 179 times and facilitates 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.

WeWork Inc.

Data Scientist Intern, Research and Applied Science Team

Palo Alto, CA

June 2019 - Sept. 2019

- 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.

SKILLS

Programming: Python (PyTorch, Hugging Face, DGL), C++, R, Java, Linux, Git
 Natural Language: Mandarin Chinese (Native), English (Proficient)