

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	Graph Data Mining, Explainable AI, Large Language Models, Model Efficiency, Cooperative Game Theory, and Self-Supervised Learning	
EDUCATION	University of California, Los Angeles <i>Ph.D. in Computer Science</i> (Advisor: Yizhou Sun)	Los Angeles, CA Expected: 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: 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:

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

Haoyu Li*, **Shichang Zhang***, Longwen Tang, Yizhou Sun. “Predicting and Interpreting Energy Barriers of Metallic Glasses with Graph Neural Networks” (AI4Mat@NeurIPS2023, *equal contribution)

Tianjian Guo, **Shichang Zhang**, Indranil Bardhan, Ying Ding. “Predicting ICU Length of Stay: A Graph Learning-based Explainable AI Approach” (**WITS 2023**)

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” (Math-AI@NeurIPS2023)

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	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	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 - 2023
	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 - 2024
	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)	Oct. 2023 - Present
	Min Cai (Shenzhen University Master)	Nov. 2023 - Present

PROFESSIONAL EXPERIENCE	Amazon Web Service (AWS)	Santa Clara, CA
	Applied Scientist Intern, Graph Machine Learning Team	June 2023 - Nov. 2023
	<ul style="list-style-type: none">• Worked on applying large language models (LLMs) to text-rich graph data with hierarchical neighborhood compression, which allows LLMs to leverage the graph structure and long input text features to outperform traditional graph machine learning models on standard tasks like node classification and link prediction.	

	Amazon Web Service (AWS)	Santa Clara, CA
	Applied Scientist Intern, Graph Machine Learning Team	June 2022 - Oct. 2022
	<ul style="list-style-type: none">• 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	Los Angeles, CA
	Research Intern, Computational Social Science Team	June 2021 - Sept. 2021
	<ul style="list-style-type: none">• 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.	Palo Alto, CA
	Data Scientist Intern, Research and Applied Science Team	June 2019 - Sept. 2019
	<ul style="list-style-type: none">• 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, PyG, DGL), C++, R, Java, Linux (Ubuntu), Git
Natural Language: Mandarin Chinese (Native), English (Proficient)