

Chunhui Zhang

Updated August 31, 2023

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Research interests Large Language Model, AI Alignment for Human Well-being, Embodied AI Agent

Education

Dartmouth College	Hanover, New Hampshire, US
Ph.D. student in Computer Science	Aug. 2023 – Present
Advisor: Professor Soroush Vosoughi	

Brandeis University	Waltham, Massachusetts, US
Master of Science, Computer Science	Sep. 2021 – Jun. 2023
GSAS Fellowship	

Northeastern University	CN
Bachelor of Science, Computer Science	Sep. 2017 – Jun. 2021
Outstanding Honor Thesis Award	
Mentor: Professor Xiaoming Yuan	

Publications

When Sparsity Meets Contrastive Models: Less Data Can Bring Better Class-Balanced Representations
Chunhui Zhang, Chao Huang, Yijun Tian, Qianlong Wen, Zhongyu Ouyang, Youhuan Li, Yanfang Ye, Chuxu Zhang.
Fortieth International Conference on Machine Learning (ICML), 2023.

Chasing All-Round Graph Representation Robustness: Model, Training, and Optimization
Chunhui Zhang, Yijun Tian, Mingxuan Ju, Zheyuan Liu, Yanfang Ye, Nitesh Chawla, and Chuxu Zhang.
The 11th International Conference on Learning Representations (ICLR), 2023.

Mind the Gap: Mitigating the Distribution Gap in Graph Few-shot Learning
Chunhui Zhang, Hongfu Liu, Jundong Li, Yanfang Ye, Chuxu Zhang.
Transactions on Machine Learning Research (TMLR), 2023.

Fair Graph Representation Learning via Diverse Mixture-of-Experts
Zheyuan Liu*, **Chunhui Zhang*** (**Co-first author in alphabetical order**), Yijun Tian, Erchi Zhang, Chao Huang, Yanfang Ye and Chuxu Zhang.

International World Wide Web Conference (WWW / The Web Conf.), 2023.

Note: Co-first author Liu is an undergraduate who was mentored by me. A pleasant first experience as a mentor. Thanks Liu!

Boosting Graph Neural Networks via Adaptive Knowledge Distillation
Zhichun Guo, **Chunhui Zhang**, Yujie Fan, Yijun Tian, Chuxu Zhang, and Nitesh Chawla.

Thirty-Seventh AAAI Conference on Artificial Intelligence (AAAI), 2023.

Heterogeneous Graph Masked Autoencoders

Yijun Tian, Kaiwen Dong, **Chunhui Zhang**, Chuxu Zhang, and Nitesh Chawla.

Thirty-Seventh AAAI Conference on Artificial Intelligence (AAAI), 2023.

Heterogeneous Temporal Graph Neural Network Explainer

Jiazheng Li, **Chunhui Zhang**, Chuxu Zhang.

ACM International Conference on Information and Knowledge Management (CIKM), 2023.

Label-invariant Augmentation for Semi-Supervised Graph Classification

Han Yue, **Chunhui Zhang**, Chuxu Zhang, and Hongfu Liu.

Thirty-sixth Conference on Neural Information Processing Systems (NeurIPS), 2022.

Co-Modality Imbalanced Graph Contrastive Learning

Yiyue Qian, **Chunhui Zhang**, Yiming Zhang, Qianlong Wen, Yanfang Ye, and Chuxu Zhang.

Thirty-sixth Conference on Neural Information Processing Systems (NeurIPS), 2022.

Look Twice as Much as You Say: Scene Graph Contrastive Learning for Self-Supervised Image Caption Generation

Chunhui Zhang, Chao Huang, Youhuan Li, Xiangliang Zhang, Yanfang Ye, and Chuxu Zhang.

ACM International Conference on Information and Knowledge Management (CIKM), 2022.

GraphBERT: Bridging Graph and Text for Malicious Behavior Detection on Social Media

Jiele Wu, **Chunhui Zhang**, Zheyuan Liu, Erchi Zhang, Steven Wilson, and Chuxu Zhang.

IEEE International Conference on Data Mining (ICDM), 2022.

Diving into Unified Data-Model Sparsity for Class-Imbalanced Graph Representation Learning

Chunhui Zhang, Chao Huang, Yijun Tian, Qianlong Wen, Zhongyu Ouyang, Youhuan Li, Yanfang Ye, Chuxu Zhang.

Thirty-sixth Conference on Neural Information Processing Systems-New Frontiers in Graph Learning Workshop (NeurIPS GLFrontiers Workshop), 2022

37th AAAI Conference on Artificial Intelligence-Workshop on DL-Hardware Co-Design for AI Acceleration (AAAI DCAA workshop), 2023

Best Paper Runner-up Award

Adversarial Cross-View Disentangled Graph Contrastive Learning

Qianlong Wen, Zhongyu Ouyang, **Chunhui Zhang**, Yiyue Qian, Yanfang Ye, Chuxu Zhang.

Thirty-sixth Conference on Neural Information Processing Systems-New Frontiers in Graph Learning Workshop (NeurIPS GLFrontiers Workshop), 2022

AdaSearch: Many-to-One Unified Neural Architecture Search via A Smooth Curriculum

Chunhui Zhang^{*}, Yongyuan Liang^{*}, Yifan Jiang^{*}.

AAAI-22 Workshop: Learning Network Architecture During Training.

Towards Tailored Models on Private AIoT Devices: Federated Direct Neural Architecture Search

Chunhui Zhang, Xiaoming Yuan, Qianyun Zhang, Guangxu Zhu, Lei Cheng, and Ning Zhang.

IEEE Internet of Things Journal (IEEE-LoTJ), Feb. 2022.

3D Enhanced Multi-scale Network For Thoracic Organs Segmentation

Qin Wang, Weibing Zhao, **Chunhui Zhang**, Liyue Zhang, Changmiao Wang, Zhen Li, Shuguang Cui, Guanbin Li.

IEEE International Symposium on Biomedical Imaging Challenge (ISBI-W), 2019

Honors and scholarships	Graduate School of Arts and Sciences Fellowship (Brandeis)	2021 – 2023
	GSAS Ph.D. Student Conference Award (Brandeis)	2023
	Travel and Research Grant (Brandeis)	2022
	CIKM Travel Grant Award	2022
	AAAI-DCAA Best Paper Runner-up Award	2023

Research Assistant Nov. 2018-Aug. 2021

The Chinese University of Hong Kong, China
 Shenzhen Research Institute of Big Data (SRIBD)
 Mentors: [Professor Lei Cheng](#), [Professor Zhen Li](#)
 Developed a differentiable method for neural architecture search that significantly reduced GPU hours (80% computational cost/1,000 GPU hours reduction) on ImageNet.

Teaching assistant, Computer Science, Brandeis Fall 2021 & Spring 2023
 CS 133A: Graph Mining
 Graphs are capable of modeling complex social, technological, and biological systems. This course covers the core concepts, models, and algorithms of graph mining.

Teaching Assistant, Computer Science, Brandeis Spring & Fall 2022
 CS 165B: Deep Learning
 This course covers the core methods and algorithms of deep learning techniques.

Publicity Chair

KDD 2023 Workshop on Resource-Efficient Learning for Knowledge Discovery

Program Committee/Conference Reviewer
 NeurIPS 2023, NeurIPS Datasets and Benchmarks track 2023, AAAI 2023, Learning on Graphs 2023, NeurIPS 2022, CIKM 2022, ICDM 2022, IEEE HPCC 2020

Journal Reviewer

IEEE Transactions on Knowledge and Data Engineering, IEEE Transactions on Network Science and Engineering, ACM Transactions on Intelligent Systems and Technology, Neurocomputing, Big Data

Other interests

Racing – a happy part of my life. I particularly enjoy go-karting and circuit racing (some fun facts: 1st and 2nd place at Supercharged). But there is one type of racing that I have yet to try - my favorite rally driving (My favorite rally driver is Han Han).