

# Chunhui Zhang

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

**Education**

<b>Dartmouth College</b>	Hanover, New Hampshire, US
PhD student in Computer Science	Aug. 2023 – Present
Advisor: <a href="#">Professor Soroush Vosoughi</a>	

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

<b>Northeastern University</b>	CN
Bachelor of Science, Computer Science	Sep. 2017 – Jun. 2021
Outstanding Honor Thesis Award	
Mentor: <a href="#">Prof. Xiaoming Yuan</a>	

**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**<sup>\*</sup>, Yongyuan Liang<sup>\*</sup>, Yifan Jiang<sup>\*</sup>.

**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-IoTJ)*, 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 PhD 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 experience

**Research Assistant** Nov. 2018-Aug. 2021

**The Chinese University of Hong Kong, China**

Shenzhen Research Institute of Big Data (SRIBD)

Mentors: [Prof. Lei Cheng](#), [Prof. 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 experience

**Teaching assistant, Computer Science, Brandeis** Fall 2021 & Spring 2023

CS 133A: Graph Mining

**Teaching Assistant, Computer Science, Brandeis**

Spring & Fall 2022

CS 165B: Deep Learning

Service and outreach

**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).