Di Zhang

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EDUCATION

School of Computer Science and Technology, Fudan University 09/2023-Present
Ph.D. Student in *Computer Science and Technology* **Overall GPA**: 3.5/4.3 (87/100)
Supervisor: *Prof. Wanli Ouyang*

School of Computer Science and Technology, University of Science and Technology of China. 09/2019-06/2022
M.E. in Computer Technology **Overall GPA**: 3.0/4.3 (80.5/100) Ranking: 14/96
Supervisor: *Prof. Bei Hua and Prof. Xiaopin Chen*
Dissertation: *Design and Implementation of Safety and Robustness of Mobile Service Robot Navigation in Complex Pedestrian Scenarios*

Department of Architecture and Civil Engineering, Hefei University of Technology. 09/2015-06/2019
B.E. in Water Supply and Drainage Science and Engineering **Overall GPA**: 2.7/4.3 (75.4/100)
Dissertation: *Water supply Engineering Design Scheme 2 of Municipal Services District of C City*

PUBLICATIONS

- ✓ **Zhang, Di**, Song Han. 2021. "Technical Report of Model Quantization Simulations on Convolution Neural Network based on AIMET and PyTorch". http://github.com/trotsky1997/Technical-Report-for-QAT
- ✓ Zhang, Bo, Chenguang Li, **Di Zhang**, Xiaopin Chen et al. "Sentiment analysis dataset for dialogue systems in power business" (Chinese). Journal of Computer Applications, 2022,42(z1):37-42. DOI:10.11772/j.issn.1001-9081.2021020266.2022
- ✓ CN202111496103. Zhang, Bo, **Di Zhang**, Xiaopin Chen et.al. 2022. Target selection model for robot interaction and robot interaction system. CN114399529 (A), issued April 26, 2022.
- ✓ **Zhang, Di**, Wei Liu, Qian Tan, Jingdan Chen, Hang Yan, Yuliang Yan, Jiatong Li, et al. 2024. "ChemLLM: A Chemical Large Language Model." arXiv. http://arxiv.org/abs/2402.06852.
- ✓ **Zhang, Di**, Li J, Huang X, et al. Accessing GPT-4 level Mathematical Olympiad Solutions via Monte Carlo Tree Self-refine with LLaMa-3 8B[J]. arXiv preprint arXiv:2406.07394, 2024.
- ✓ **Zhang, Di**, Jianbo Wu, Jingdi Lei, Tong Che, Jiatong Li, Tong Xie, Xiaoshui Huang et al. "Llama-berry: Pairwise optimization for o1-like olympiad-level mathematical reasoning." arXiv preprint arXiv:2410.02884 (2024).
- ✓ Li, Junxian, **Di Zhang**, Xunzhi Wang, Zeying Hao, Jingdi Lei, Qian Tan, Cai Zhou et al. "Chemvlm: Exploring the power of multimodal large language models in chemistry area." arXiv preprint arXiv:2408.07246 (2024).
- ✓ **Zhang, Di,** Jingdi Lei, Junxian Li, Xunzhi Wang, Yujie Liu, Zonglin Yang, Jiatong Li et al. "Critic-V: VLM Critics Help Catch VLM Errors in Multimodal Reasoning." arXiv preprint arXiv:2411.18203 (2024).
- ✓ Li, Jiatong, Yunqing Liu, Wei Liu, Jingdi Lei, **Di Zhang**, Wenqi Fan, Dongzhan Zhou, Yuqiang Li, and Qing Li. "MolReFlect: Towards In-Context Fine-grained Alignments between Molecules and Texts." arXiv preprint arXiv:2411.14721 (2024).

CARRER EXPERIENCES

- Alibaba Inc. 01/2023-08/2023
  Position: Recommendation System Algorithm Engineer (Fulltime)
- ✓ Fulltime Employment at Recommendation System Team, Xianyu, TaoBao & TianMao Group.
- ✓ Participated in the Design and Development of Recommendation System of Xianyu App.

ACTIVITIES & AWARDS

- IJCAI Old-age Service Robot Competition (First Place). 06/2019
- Campus Algorithm Invitational Competition for Big Data in Smart Cities (First Place). 12/2019
- Alibaba Cloud Digital Intelligence Service Innovation Challenge 2020 (Awarded to Top 4%). 04/2020
- Al-Earth 2021 EI Nino-Southern Oscillation Indicator Prediction Contest (Awarded to Top 10%). 03/2021
- Awarded the second-class academic scholarship (Three times, USTC). 2019-2022
- Awarded the second-class academic scholarship (FDU). 2023

PROFESSIONAL EXPERIENCES

Chemical Large Language Models and Robots 08/2023-Present

Prof. Wanli Ouyang (Shanghai AI Lab and CUHK, supervisor) and Dr. Yuqiang Li (Shanghai AI Lab, mentor)

- Leveraging large language models (LLMs) to build general and multimodal agents empower AI research in the chemical and natural sciences.

Battery anomaly detection for electric vehicles based on deep transfer learning 06/2022-09/2022

Prof. Jingzhao Zhang and Dr. Dongxu Guo (Tsinghua University, supervisor)

- Conducted multi-dataset and multi-task transfer learning in battery anomaly detection of electric vehicles research.

Efficient Deep learning on Edge devices 09/2021-06/2022

Prof. Song Han (MIT, supervisor) and Dr. Ralph Huizi Mao (Stanford University, supervisor)

- Conducted research on the technology of low-bit quantization and DL model deployment on edge devices.

Research on human-computer interaction of humanoid robot 09/2019-06/2022

Prof. Bei Hua, and Prof. Xiaoping Chen (USTC, supervisor)

- Conducted research on the security of human-robot interaction and the application of NLP and Dialogue System
- Participated in "Jiajia" service robot project and "Xiaochuan" Giant Panda Robot Project

INTERN EXPERIENCES

- Microsoft Research Asia 03/2021-06/2021
  Position: Intern *Dr. Xu Tan (Mentor)*

✓ Participated in the Talking face with upper body gestures project of Microsoft Research Asia and Multimedia Laboratory (MMLab) and responsible for the past research survey and data collection.

- Ant group (Alibaba Inc.) 06/2021-09/2021
  Position: Intern algorithm engineer *Engineer Bao Liu and Raul Chen (Mentor)*

✓ Internship in the Computational Intelligence department, CTO line, Ant Group.

✓ Participated in the development of Ray core and PyMars. Obtained Ant Group offer after the internship and rated P5.

ACADEMIC SKILLS

- Master good theoretical foundation of deep learning and reinforcement learning, and proficient in algorithm development and machine learning software and hardware environment management.
- Proficient in Python/C/Golang and other mainstream programming languages.
- Proficient in Pytorch, Tensorflow/Keras, Flask and other mainstream technical frameworks.
- Proficient in data collection, literature and technical documents reading.
- Master the reproduce of industry Transformer, graph neural network and other novel technologies and algorithms