

## Education

- 2024 – **Hong Kong Polytechnic University**, Ph.D. in Computing, *GPA: 4.1/4.3.*  
Present Advisor: Prof. **Wenqi Fan** and Prof. **Qing Li**
- 2021 – 2024 **Sichuan University**, M.E. in Computer Science and Technology, *GPA: 3.76/4.*  
Advisor: Prof. **Min Zhu**, Lab: Vision Computing Lab
- 2017 – 2021 **Sichuan University**, B.E. in Computer Science and Technology, *GPA: 3.77/4.*  
Under the Wu Yuzhang Honors Program

## Research Interests

**AI4Science**, Large Language Models, Graph Machine Learning & Data Mining

## Publications & Preprints

J - Journal, C - Conference, P - Preprint

- J1 **Yi Zhou**, Xinyi Wang, Lin Yao, Min Zhu. "LDAformer: Predicting LncRNA-Disease Associations based on Topological Feature Extraction and Transformer Encoder". *Briefings in Bioinformatics (BIB)*, 2022. (JCR-Q1, IF: 13.994)
- J2 Wenwen Gao, Shangsong Liu, **Yi Zhou**, Fengjie Wang, Feng Zhou, Min Zhu. "GBDT4CTRVis: Visual Analytics of Gradient Boosting Decision Tree for Advertisement Click-Through Rate Prediction". *Journal of Visualization (JoV)*, 2024.
- J3 Jiamin Zhu, Meixuan Wu, **Yi Zhou**, Nan Cao, Haotian Zhu, Min Zhu. "Dowsing: A Task-Driven Approach for Multiple-View Visualizations Dynamic Recommendation". *Journal of Visualization (JoV)*, 2024.
- J4 Lin Gan, Xinyi Wang, **Yi Zhou**, Min Zhu. "Protein-binding RNA Prediction Based on Integrated Sequence-Structure-Function Pre-training". *IEEE Transactions on Computational Biology and Bioinformatics (TCBB)*, 2025.
- C1 **Yi Zhou**, Xian Guan, Meixuan Wu, Chengzhou Ouyang, Min Zhu. "Timely-MDA: A Benchmark for Generalizable MiRNA-Disease Association Prediction". *International Conference on Bioinformatics and Biomedicine (BIBM)*, 2024.
- C2 Meixuan Wu, Yizhou Yang, **Yi Zhou**, Kai Wang, Junqi Bai, Min Zhu. "PLHMDA: Pre-trained Language Model and Heterogeneous Graph Neural Network for MiRNA-Disease Association Prediction". *International Conference on Intelligent Computing (ICIC)*, 2025, Oral.
- P1 Wenqi Fan, **Yi Zhou**, Shijie Wang, Yuyao Yan, Hui Liu, Qian Zhao, Le Song, Qing Li. "Computational Protein Science in the Era of Large Language Models (LLMs)".
- P2 **Yi Zhou**, Haohao Qu, Yunqing Liu, Shanru Lin, Le Song, Wenqi Fan. "HD-Prot: A Protein Language Model for Joint Sequence-Structure Modeling with Continuous Structure Tokens".

## Patents

PT- Patent; USE - Under Substantial Examination

- PT2 Min Zhu, **Yi Zhou**, Xinyi Wang, Lin Yao. "Method and System for Long Non-coding RNA-Disease Association Prediction Based on Self-Attention Mechanism". CN202210818621.5.

- PT1 Min Zhu, Fuqiu Chen, Chunlin Long, **Yi Zhou**, Xinyi Wang. "A Visualization Method for Chromatin Hierarchy Analysis Based on Genetic Data". CN202111217034.2.
- PT7 Min Zhu, Meixuan Wu, **Yi Zhou**. "A MicroRNA-Disease Association Prediction Method Based on Graph Neural Networks". CN202411841640.5.
- PT3 (USE) Min Zhu, Xiyao Li, Chunlin Long, **Yi Zhou**, Xinyi Wang. "A Prediction Method for Chromatin Topological Association Domain Boundary Based on Multimodal Fusion". CN202211477002.0.
- PT4 (USE) Min Zhu, Jiamin Zhu, Meixuan Wu, **Yi Zhou**, Haotian Zhu. "A Dynamic Visualization Recommendation Method Based on User Tasks". CN202211610962.X.
- PT5 (USE) Min Zhu, Meixuan Wu, Jiamin Zhu, **Yi Zhou**, Haotian Zhu. "An Analytical Task Perception Method that Integrates Deep Learning Models and Rules". CN202211104004.5.
- PT6 (USE) Min Zhu, Jiamin Zhu, Meixuan Wu, **Yi Zhou**. "A Visual Analytics Method for RNA-Disease Associations Based on Density Relational Graphs". CN202311187212.0.

## Research Experience

Jul 2024 – **Research in AI for Protein.**

- Now - Authored a comprehensive survey for protein language models. [P1, [arXiv](#)]
- Proposed HD-Prot, a multimodal protein language model. [P2, [arXiv](#), [GitHub](#)]

Jan 2021 – **Research in Biomedical Network Analysis**, Project "Visual Analysis of Heterogeneous Graph for Disease-Regulatory Factor", supported by the **General Program of National Natural Science Foundation of China** (Grant No.62172289).

- Drafted the research contents of biomedical entity link prediction in the project proposal, and drove a series of publications as the student leader.
- Proposed LDAformer, a lncRNA-disease association prediction method. [J1, [DOI](#), [GitHub](#), PT2]
- Developed Timely-MDA, a benchmark for miRNA-disease association prediction. [C1, [DOI](#), [GitHub](#)]
- Contributed to MTP-RBP, a protein-binding RNA prediction method. [J4, [DOI](#), [GitHub](#)]
- Contributed to PLHGMDA, a miRNA-disease association prediction method. [C2, [DOI](#), PT7]
- Contributed to DLMV, a visual analytic system for RNA-disease networks. [PT6 (USE), [Demo](#)]

Dec 2020 – **Research in Data Visualization and Analytics.**

- Apr 2023 - Contributed to Project "Platform for Visual Analysis of Chromatin Multi-Level Structures and Gene Regulation Relationships", supported by **Chengdu Science and Technology Program** (Grant No.2021-YF05-02071-SN). Drafted the project proposal, and developed a visual analytics platform as the student leader. [PT1, PT3 (USE)]
- Participated in the development of Dowsing, a recommendation approach for the generation of multiple-view visualizations. [J3, PT4 (USE), PT5 (USE), [DOI](#), [Webpage](#), [Online Demo](#)]
  - Participated in the development of GBDTCTRVis, a visual analytics system for GBDT-based advertisement click-through rate prediction. [J2, [DOI](#), [Video](#)]

## Teaching & Services

Fall 2023 - **Teaching Assistant**, Sichuan University.

Spring 2024 - Data Visualization (311301030) × 2

Fall 2024 - **Teaching Assistant**, Hong Kong Polytechnic University.

- Fall 2025 - Introduction to Artificial Intelligence and Data Analytic (COMP1004) × 2
- Computational Thinking and Problem Solving (COMP1010)

**Journal Reviewer.**

- Expert Systems With Applications (ESWA)

Jul 2022 – **Mentor of Bioinformatics Group**, Vision Computing Lab.

Jun 2024 Mentored Meixuan Wu, Xiyao Li, Wanjing Zhang, Lin Gan, Xian Guan and Chengzhou Ouyang.

Sep 2021 – **Living Manager**, Vision Computing Lab.

Aug 2023 Responsible for all non-working tasks in the lab.

## Honors & Awards

- 2024 PolyU Research Postgraduate Scholarship (PRPgS)
- 2024 Outstanding Undergraduate Teaching Assistant at Sichuan University
- 2024 Outstanding Graduate of Sichuan University
- 2023 Outstanding Graduate Student of Sichuan University
- 2023 First-class of Excellent Graduate Scholarship by Sichuan University
- 2023 Tencent Scholarship of Sichuan University
- 2021 Certificate of Honor from Wu Yuzhang Honors College

## Skills

Programming Python, PyTorch, PyTorch Geometric, SQL, Linux command, Git

Languages Chinese, English (IELTS: 7.0), Fuzhou dialect