Yi Zhou

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Education

2024 – Present	**Hong Kong Polytechnic University**, Ph.D. in Computing. 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, Graph Machine Learning, Large Language Models & 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.

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.

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)".

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.

Patents

PT- Patent; USE - Under Substantial Examination

PT1 Min Zhu, Fuqiu Chen, Chunlin Long, **Yi Zhou**, Xinyi Wang. "A Visualization Method for Chromatin Hierarchy Analysis Based on Genetic Data". CN113946730A.

PT5 (USE) Min Zhu, Meixuan Wu, Jiamin Zhu, **Yi Zhou**, Haotian Zhu. "An Analytical Task Perception Method that Integrates Deep Learning Models and Rules". CN116303737A.

PT4 (USE) Min Zhu, Jiamin Zhu, Meixuan Wu, **Yi Zhou**, Haotian Zhu. "A Dynamic Visualization Recommendation Method Based on User Tasks". CN116204704A.

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". CN115831217A.

PT2 (USE) Min Zhu, **Yi Zhou**, Xinyi Wang, Lin Yao. "Method and System for Long Non-coding RNA-Disease Association Prediction Based on Self-Attention Mechanism". CN115171780A.

Research Experience

Jul 2024 – Now
Research in AI for Protein.
- Authored a comprehensive survey on protein language models, highlighting foundation models and their adaptation advancements in the field of computational protein science. [P1, `arXiv`]

Jan 2021 – Jun 2024
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 framework for biomedical entity link prediction in the project proposal.
- Proposed LDAformer, a lncRNA-disease association prediction method achieving state-of-the-art performance. [J1, `DOI`, `GitHub`, PT2 (USE)]
- Contributed to the development of DLMV, a visual analytic system for RNA-disease network that enables interactive exploration and analysis of specific biological data. [`Online Demo`]
- Developed Timely-MDA, a benchmark for miRNA-disease association prediction, designed to improve generalizability and reproducibility in the field. [C1, `DOI`, `GitHub`]
- Contributed to MTP-RBP, a protein-binding RNA prediction method. [J4, `DOI`, `GitHub`]

Dec 2020 – Apr 2023
Research in Data Visualization and Analytics.
- Participated in the development of Dowsing, a recommendation approach for generating and optimizing multiple-view visualizations, enhancing user-driven data exploration. [J3, PT4 (USE), PT5 (USE), `DOI`, `Webpage`, `Online Demo`]
- Participated in the development of GBDTCTRVis, a visual analytic system for GBDT-based advertisement click-through rate prediction. [J2, `DOI`, `Video`]
- 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 analytic platform with functions like topological association domain prediction. [PT1, PT3 (USE)]

Teaching & Services

Fall 2023 & Spring 2024
Teaching Assistant, Sichuan University.
- Data Visualization (311301030)

Fall 2024 & Spring 2025
Teaching Assistant, Hong Kong Polytechnic University.
- Introduction to Artificial Intelligence and Data Analytic (COMP1004)

Journal Reviewer.
- Expert Systems With Applications (ESWA)

Jul 2022 – Jun 2024
Mentor of Bioinformatics Group, Vision Computing Lab.
Mentored Meixuan Wu, Xiyao Li, Wanjing Zhang, Lin Gan, Xian Guan and Chengzhou Ouyang.

Sep 2021 – Aug 2023
Living Manager, Vision Computing Lab.
Responsible for all non-working tasks in the lab.

Honors & Awards

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