Zhentao He

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github.com/JimmyTauH

EDUCATION

Fudan University **Shanghai, China**
Ph.D. *Sept. 2025 - June 2030*

Wuhan University **Wuhan, Hubei Province, China**
B.E. in Computer Science & Technology *Sept. 2021 - June 2025*

- **Hongyi Honor College Student**
- **GPA: 3.91/4.00**
- **Outstanding Student Award**
- Operational command of English(**IELTS Band 7**)

PUBLICATIONS

- Interpretable Data Integration for Single Cell and Spatial Multi-Omics. CELL-SYSTEMS.
  Yang, Chenghui and **He, Zhentao** and Nie, Qing and Zhang, Lihua Link

CURRENTLY RESEARCH FOCUS

Bioinformatics[Multiomics Analysis, Perturbation Prediction], **AI for Medicine**

EXPERIENCE

PhD Student Researcher

Lab of Data Mining and Intelligent Information Processing, ISTBI, Fudan University *Spet. 2025 - June 2030*

Advisor: Prof. Shanfeng Zhu

- Integration and analysis of spatial multiomics data.

Undergraduate Researcher

BIOD Lab, School of Computer Science, Wuhan University *July 2022 - June 2025*

Advisor: Prof. Lihua Zhang

- Develop methods single-cell multiomics data integration and analysis.
- Predicte the impact of drug and genetic perturbations on cell states.
- Studied metabolic pathway design and molecular feature representation techniques.

iGEM Team Member(Head of Model Team)

WHU-China, CRISPReporter *Nov. 2022 - Nov. 2023*

Advisor: Dr. Lei Bai, Prof. Zhixiong Xie & Prof. Lihua Zhang

- **Gold Medal**; Nomination for Best Foundational Advance Project, etc.
- A novel multi-level DNA memory device with CRISPR technology and **its software suite**. Description

PROJECTS

- **CRISPReporter: model and software suit** Model Our Gitlab

  sgRNA generator utilizing machine learning techniques and sequence alignment technologies, predicts the on-target and off-target rates of sgRNAs, providing experimental teams with high-quality sgRNA sequences.

  Editing simulator is designed to emulate the temporal relationships between multi-level signal recordings, enabling precise logging through the appropriate setting of biological oscillator cycles and recording system thresholds.
- **Multiomics integration via feaure-guided optimal transport** FGOT

  We use feature-guided optimal transport for the integration of cells across different modalities. My contributions encompass a portion of the coding, experiments, and the co-authorship of the manuscript.

COMPETENCIES & SKILLS

Programming Languages: Python, C++, R
Libraries and Tools: PyTorch, Git, Docker; Scanpy, Seurat, etc.
ML Architectures: VAE, GNN, GAN, OT(Neural Optimal Transport), Transformer, etc.