

# Yuming Zhou

2001 Longxiang Road – Shenzhen – China

✉ yumingzhou@link.cuhk.edu.cn • 🌐 github.com/zcorn2017

## Education

### University of Illinois Urbana-Champaign

PhD in Plant Biology (Incoming); **Advisor:** Prof. Amy Marshall-Colon

**Champaign, United States**

Starting Aug 2025

### The Chinese University of Hong Kong, Shenzhen (CUHK-SZ)

BSc in Bioinformatics

**Shenzhen, China**

Sep 2021–Present

### University of North Carolina at Chapel Hill

Global Exchange Program

**Chapel Hill, United States**

Aug 2023–Dec 2023

## Research Experiences

### Prof. Hsien-Da Huang's group, CUHK-SZ

Research Internship

**Shenzhen, China**

Apr 2024–Present

**Focus:** Drug-target Interaction Prediction

- Contributing to the development of SCOPE, a novel platform for semi-inductive drug-target interaction (DTI) prediction.
- Curating large-scale DTI datasets from multiple sources, focusing on data quality and diversity.
- Implementing and evaluating various ML models across different prediction scenarios.
- Assessing model performance using comprehensive metrics including AUROC, AUPRC, accuracy, sensitivity, and specificity.
- Designed and implemented a responsive web interface and REST APIs for SCOPE.

### Prof. Hsien-Da Huang's group, CUHK-SZ

Research Internship

**Shenzhen, China**

Apr 2024–Sep 2024

**Focus:** miRNA Upstream TSS Identification

- Contributing to the development of miRStart 2.0, an advanced database for microRNA TSS identification and TF regulation analysis.
- Conducted comprehensive benchmarking of the miRStart 2.0 model against existing tools.

### Imperial College London

Student-led Research Project

**Remote**

Jun 2023–Dec 2023

**Project:** Aptamer-based Lateral Flow Test (ALFT) Device for NoroVirus

- Cooperating with students from Imperial to screen aptamer candidates for lateral flow device to detect Norovirus.
- Performing SELEX and building a workflow using tools like NSP and Haddock for massive screening.

### Prof. Hsien-Da Huang's group, CUHK-SZ

Research Internship

**Shenzhen, China**

Apr 2023–Nov 2024

**Focus:** Traditional Chinese Medicine (TCM) Database

- Curating drug-target interaction records from existing TCM databases.
- Deploying crawlers to collect data from multiple sources, resulting in over 22,000 ingredients and 19,000 interactions.
- Sponsored via the Undergraduate Research Awards program.

### Prof. Jian Huang's group, Soochow University

Research Training

**Suzhou, China**

Aug 2022–Sep 2022, Jul 2023–Aug 2023

**Focus:** Protein Prokaryotic Expression and Molecular Cloning

- Performing molecular biology experiments including PCR, gel electrophoresis and protein expression.

## Teaching Experiences

### CUHK-SZ

Undergraduate Student Teaching Fellow

**Shenzhen, China**

Sep 2024–Dec 2024

**Course:** Organic Chemistry and Biomolecules

- Completing paperwork, invigilating exams, grading assignments, and delivering tutorials (Paid).

### Imperial College London

Advisor

**Remote**

Jun 2024–Oct 2024

**Focus:** the International Genetically Engineered Machine (iGEM) Competition

- Advising the team imperial-college (undergraduate track) in the iGEM competition.

### Shanghai Renaissance Biotechnology Co., Ltd.

Lecturer

**Remote**

Jun 2023–Jun 2024

**Focus:** iGEM Wiki Development

- Tutoring iGEM wiki development for iGEM teams (high school track, paid).

### CUHK-SZ

Student Help Room Preceptor

**Shenzhen, China**

Sep 2022–May 2023

**Courses:** General Chemistry, Introduction to Computer Science: Programming Methodology, and Computational Laboratory

- Tutoring students via walk-in meetings on their coursework (Paid).

## Extracurricular Activities

### Bioinformatics Association, CUHK-SZ

Founding Member & Deputy Head

**Shenzhen, China**

Sep 2023–Sep 2024

- Developing plans for events in collaboration with other organizations.
- Organizing and hosting an academic seminar on ADHD (Link to recording in Chinese).

**Biomedical Engineering Association, CUHK-SZ**

*Head of the Planning Department*

- Developing plans for events in collaboration with other organizations.

**Shenzhen, China**

*Sep 2022–Sep 2023*

**Skills**

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**Programming & Data Analysis:** Proficient in Python (scientific computing, data analysis, visualization); Familiar with R; Experienced with big data analysis tools (Numpy, Pandas, Seaborn); Familiar with Machine Learning / Deep Learning techniques.

**Bioinformatics:** Gene expression data analysis, gene enrichment analysis, regulatory network analysis; Experienced with bioinformatics tools (GEO Dataset, iDEP, BLAST, GESA, JASPAR).

**Wet Lab Techniques:** Proficient in molecular biology techniques including SELEX, PCR, gel electrophoresis, microscopy, cell transformation, plasmid extraction, cell fractionation, and cell culture; Familiar with mouse autopsy and Western blot.

**Molecular Modeling:** Experienced in VMD, GROMACS, UCSF Chimera, Avogadro, GAMESS, OpenBabel, AutoDock Vina and their APIs; Proficient in automating research workflows through scripting.

**Web Development:** Proficient in front-end technologies (HTML, CSS, JavaScript); Familiar with back-end frameworks (e.g., Flask); Experienced in Chrome extension development; Familiar with iOS app programming using Swift.

**System Administration:** Linux system maintenance and configuration (Debian, Ubuntu, Arch); Familiar with virtualization (Proxmox VE, KVM+QEMU, VirtualBox); Experienced with Docker; Familiar with Windows Server (RDP and Hyper-V).

**Version Control & Documentation:** Skilled in Git for version control and collaborative development; Proficient in type-setting systems (Markdown, L<sup>A</sup>T<sub>E</sub>X, Typst)

**Honors and Awards**

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**School of Medicine, CUHK-SZ**

*Dean’s List* Awarded for excellent academic performance in 2023-2024 Nov 2024

**iGEM Foundation**

*Gold Medal* Advising in the iGEM competition (undergraduate track) Oct 2024

**CUHK-SZ**

*Undergraduate Research Award (Extd.)* Sponsored for the TCM Database project Aug 2023

**iGEM Foundation**

*6 Gold Medals and 1 Silver Medal* Advising in the iGEM competition (high school track) Oct 2022, Oct 2023

**School of Medicine, CUHK-SZ**

*Dean’s List* Awarded for excellent academic performance in 2022-2023 Sep 2023

**CUHK-SZ**

*Undergraduate Research Award* Sponsored for the TCM Database project Apr 2023

**School of Medicine, CUHK-SZ**

*Dean’s List* Awarded for excellent academic performance in 2021-2022 Sep 2022

**Apple**

*Innovative Award* Awarded in the Showcase of the Mobile Application Innovation Contest Oct 2019

**Publications**

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Xu, Jiatong, Jingting Wan, Hsi-Yuan Huang, Yigang Chen, Yi-xian Huang, Junyang Huang, Ziyue Zhang, Chang Su, **Yuming Zhou**, Xingqiao Lin, Yang-Chi-Dung Lin, and Hsien-Da Huang. “miRStart 2.0: Enhancing miRNA Regulatory Insights Through Deep Learning-Based TSS Identification”. *Nucleic Acids Research*, 2024.