Yuxiang Zhang

Undergraduate of Shanghai Jiao Tong University
E-mail: zhangyuxiangSJTU@outlook.com

EDUCATION

Shanghai Jiao Tong University, School of Medicine, Shanghai, China — GPA: 3.75/4.3 Sep. 2020-Present
Bachelor of Biomedical Science (major) — Expected in June 2024

Shanghai Jiao Tong University, SEIEE, Shanghai, China — Sep. 2021-Present
Bachelor of Computer Science and Technology (minor) — Expected in June 2024

RESEARCH EXPERIENCES

Molecular Design Laboratory, Shanghai Jiao Tong University, School of Medicine — Aug. 2022-Present
- Molecular Dynamics Simulation in Biomolecules; supervisor: Jian Zhang and Shaoyong Lu

Yan Lab, Shanghai Jiao Tong University, School of Life Sciences and Biotechnology — Mar. 2022-Aug.2022
- Protein Function Analysis and Drug Design; supervisor: Wupeng Yan

Xiong Lab, Shanghai Jiao Tong University, School of Life Sciences and Biotechnology — Apr. 2021-Mar. 2022
- Machine Learning in Drug-drug Interaction; supervisor: Yi Xiong

SKILLS

- Conducting MD simulations of complex protein system
- Trajectory analysis of MD simulations
- Enhance sampling methods (NEB and GaMD)
- Virtual scanning of small molecules
- C/C++, Python, R and bash shell
- Machine Learning Framework

RELATED PROJECTS&COURSES

Projects

Molecular Dynamics Simulation in Biomolecules

- Decoupling the dynamic mechanism revealed by FGFR2 mutation-induced population shift, *J. BIO. STR. DYN., 2023*
  - Utilized GaMD simulation in 6 different systems, revealing the long range allosteric pathway in FGFR2 kinase
  - Co-first author | Received 22 Feb 2023, Accepted 10 Apr 2023.
- Large-scale computational analysis of Peptide-GPCR-G protein system (Unpublished Data)

Protein Function Analysis and Drug design

- Drug design of small molecule inhibitor targeting ras family protein Rab43 phosphokinase
  - Applied virtual scanning on LRRK2 kinase domain, obtaining 10 potential compounds

Machine Learning in Drug-drug Interaction

- Drug-drug Interaction Prediction Method Based on Deep Learning
  - Using deep neural network and convolutional neural network to predict the subtype of drug-drug interaction

Courses

JCCX0001 Machine Learning for Biomedical Signal Processing Grade: A
- Basic biostatistics analysis skills using R; Implementation classic machine learning and DL algorithm using Python

PHY1202H Introduction to Physics (HONOR) Grade: A+
CS3322 Data Structure Grade: A
MATH1607H Mathematical Analysis (HONOR) Grade: A
MATH1205H Linear Algebra (HONOR) Grade: A
BIO2355 Biochemistry Grade: A+
BIO3350 Cell Biology Grade: A
BIO2357 Applied Data Science Grade: A
CS2501 Discrete Mathematics Grade: A

HONORS&AWARDS

2022 Zhiyuan Honor Scholarship — Dec. 2022
2022 Xiaomi Scholarship — Dec. 2022
2022-2023 Academic Year SJTU Excellent Undergraduate Scholarship (B) — Nov. 2022
The 6th Biomedical Science Forum (School of Medicine, SJTU) Personal Report First Prize — Sep. 2022
Shanghai Jiao Tong University 40th PRP Excellent Project — Mar. 2022
2021 Zhiyuan Honor Scholarship — Dec. 2021
2021-2022 Academic Year SJTU Excellent Undergraduate Scholarship (B) — Dec. 2021
2020 Zhiyuan Honor Scholarship — Dec. 2020