

# Xin Xiong

Email: [21482918@life.hkbu.edu.hk](mailto:21482918@life.hkbu.edu.hk)

Website: <https://onlybelter.github.io/>

## Education

- **PhD in Computational Biology**  
*Hong Kong Baptist University*, Expected 2025  
Advisor: Professor Liang Tian
- **Master of Engineering in Computer Technology**  
*Shanghai Jiao Tong University*, 2021  
Advisor: Professor Hai Zhao
- **Bachelor of Engineering in Bioengineering**  
*Xi'an Polytechnic University*, 2010

## Work Experience

- **Research Assistant**  
*Shenzhen Institutes of Advanced Technology (SIAT), CAS*, 2020–2021
  - Focused on the deconvolution of bulk cell RNA-seq data from primary solid tumors.
  - Investigated the relationship between specific gene expression programs (e.g., EMT) and the abundance of infiltrated immune cells in the tumor microenvironment.
- **Research Assistant**  
*Interdisciplinary Research Center of Biology and Chemistry (IRCBC), CAS*, 2016–2019
  - Developed machine-learning-based prediction algorithms for CCS values and contributed to web server development (MetCCS and LipidCCS).
- **R&D Department Member**  
*Genminix Informatics Ltd.Co.*, 2011–2016
  - Developed a method for quick search and visualization of feed-forward loops, leading to a Chinese patent (201410112193X).

## Teaching Experience

- **Teaching Assistant**, Thermal and Statistical Physics (PHYS3047), 2023–2024
- **Teaching Assistant**, Thermal and Statistical Physics (PHYS3047), 2022–2023

## Presentations

- **DeSide: A Unified Deep Learning Approach for Cellular Decomposition of Bulk Tumors Based on Limited scRNA-seq Data**  
Poster Presentation, *28th IUPAP International Conference on Statistical Physics*, August 7-11, 2023, University of Tokyo, Tokyo, Japan

## Publications

\$ denotes equal contributions

\* denotes corresponding author(s)

- **Xiong, X.**<sup>\$</sup>, Liu, Y.<sup>\$</sup>, Pu, D., Yang, Z., Bi, Z., Tian, L.\* , and Li, X.\* (2023). DeSide: A unified deep learning approach for cellular decomposition of bulk tumors based on limited scRNA-seq data. *bioRxiv*, 2023.05.11.540466. 10.1101/2023.05.11.540466.
- Zhou, Z., Luo, M., Chen, X., Yin, Y., Xiong, X., Wang, R., and Zhu, Z.-J.\* (2020). Ion mobility collision cross-section atlas for known and unknown metabolite annotation in untargeted metabolomics. *Nat. Commun.* 11, 4334.
- Shen, X., Wang, R., **Xiong, X.**, Yin, Y., Cai, Y., Ma, Z., Liu, N., and Zhu, Z.-J.\* (2019). Metabolic reaction network-based recursive metabolite annotation for untargeted metabolomics. *Nat. Commun.* 10, 1516.
- Zhou, Z., Shen, X., Chen, X., Tu, J., **Xiong, X.**, and Zhu, Z.J.\* (2019). LipidIMMS Analyzer: integrating multi-dimensional information to support lipid identification in ion mobility—mass spectrometry based lipidomics. *Bioinformatics* 35.
- Zhou, Z., Tu, J., **Xiong, X.**, Shen, X., and Zhu, Z.J.\* (2017). LipidCCS: prediction of collision cross-section values for lipids with high precision to support ion mobility—mass spectrometry-based lipidomics. *Anal. Chem.* 89, 9559–9566.
- Zhou, Z., **Xiong, X.**, and Zhu, Z.-J.\* (2017). MetCCS predictor: a web server for predicting collision cross-section values of metabolites in ion mobility-mass spectrometry based metabolomics. *Bioinformatics* 33, 2235–2237.

## Skills

- **Software:** Python (9 years), R (participated a big R project), TensorFlow (8 years), PyTorch (1 year), MySQL, Docker
- **Languages:** Chinese (native), English (fluent)
- **Data Analysis:** Bulk RNA-seq and Single-cell RNA-seq, LC-MS, Machine Learning Methods, Statistical Methods

## References

- **Prof. Liang Tian**  
Hong Kong Baptist University  
Email: [liangtian@hkbu.edu.hk](mailto:liangtian@hkbu.edu.hk)

- **Prof. Xuefei Li**  
Shenzhen Institutes of Advanced Technology (SIAT), CAS  
Email: [xuefei.li@siat.ac.cn](mailto:xuefei.li@siat.ac.cn)
- **Prof. Hai Zhao**  
Shanghai Jiao Tong University  
Email: [zhaohai@cs.sjtu.edu.cn](mailto:zhaohai@cs.sjtu.edu.cn)