# Xin Xiong

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## 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

- Xiong, X., Liu, Y., 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, R, TensorFlow, PyTorch, 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

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  Shenzhen Institutes of Advanced Technology (SIAT), CAS
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- **Prof. Hai Zhao**
  Shanghai Jiao Tong University
  Email: zhaohai@cs.sjtu.edu.cn