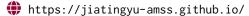
# Jiating Yu, Ph.D.

iiatingyu-amss

http://faculty.nuist.edu.cn/yujiating/en/index.htm





## **Employment History**

2023 - Now

Nanjing University of Information Science and Technology (NUIST)

Assistant Professor, School of Mathematics and Statistics Courses Taught: Linear Algebra, Machine Learning

## **Education**

2018 - 2023

Ph.D., University of Chinese Academy of Sciences (UCAS)

Academy of Mathematics and Systems Science (AMSS) Major in Operational Research and Cybernetics Advisor: Ling-Yun Wu, Professor, Director of the Bioinformatics Center, AMSS

2014 - 2018

**B.D.**, Xiangtan University (XTU)

School of Mathematics and Computational Science Major in Information and Computing Science (Shaofeng class)

### **Research Interests**

- Multi-omics Data Integration and Analysis: Focused on developing computational methodolo-1. gies for the integration of multi-omics datasets to elucidate complex biological systems, aiming to uncover novel biomarkers and pathways that contribute to disease states.
- 2. **Spatial Transcriptomics**: Dedicated to the analysis of spatial transcriptomics data to understand cellular interactions and tissue heterogeneity at single-cell resolution, with an emphasis on identifying spatially distinct gene expression patterns that may inform on developmental processes or disease mechanisms.
- Network Modeling and Optimization in Biological Systems: Interested in applying graph the-3. ory and network science principles to model biological networks (e.g., GRNs), with the goal of optimizing network analysis algorithms for improved predictive power and biological insight.

#### **Research Publications**

### **Journal Articles**

- Jiating Yu, J. Leng, Z. Hou, D. Sun, and L.-Y. Wu, "Incorporating network diffusion and peak location information for better single-cell ATAC-seq data analysis," Briefings in Bioinformatics, vol. 25, no. 2, bbaeo93, Mar. 2024, ISSN: 1477-4054. • DOI: 10.1093/bib/bbae093.
- Jiating Yu, J. Leng, F. Yuan, D. Sun, and L.-Y. Wu, "Reverse network diffusion to remove indirect noise for better inference of gene regulatory networks," Bioinformatics, vol. 40, no. 7, btae435, Jul. 2024, ISSN: 1367-4811. *§* DOI: 10.1093/bioinformatics/btae435.

- Z. Hou, J. Leng, **Jiating Yu**, Z. Xia, and L.-Y. Wu, "Pathexpsurv: Pathway expansion for explainable survival analysis and disease gene discovery," *BMC Bioinformatics*, vol. 24, p. 434, 2023, ISSN: 1471-2105.

  DOI: 10.1186/s12859-023-05535-2.
- Jiating Yu, J. Leng, D. Sun, and L.-Y. Wu, "Network refinement: Denoising complex networks for better community detection," *Physica A: Statistical Mechanics and its Applications*, vol. 617, p. 128 681, 2023, ISSN: 0378-4371. ODI: 10.1016/j.physa.2023.128681.
- Jiating Yu and L.-Y. Wu, "Multiple order local information model for link prediction in complex networks," *Physica A: Statistical Mechanics and its Applications*, vol. 600, p. 127 522, 2022, ISSN: 0378-4371.

  DOI: 10.1016/j.physa.2022.127522.

#### Articles under review and accepted

- Jiating Yu, J. Leng, X. Xu, et al., "Research on chain retailer supply chain intelligent replenishment system," Operations Research and Management Science (Chinese version, accepted); J. Yu and J. Leng contributed equally, 2024.
- **Jiating Yu**, J. Zhao, T. Ren, D. Sun, and L.-Y. Wu, "Spatial cellular communication inference with ligand diffusion and transportation model," under review, 2024.
- J. Leng, **Jiating Yu**, L.-Y. Wu, and H. Chen, "Spotzvector: Flexible integration of spatial and expression information for precise spot embedding via zinb-based graph autoencoder," under review; J. Yu and J. Leng contributed equally, 2024.

### Skills

Coding Python, R, Matlab

Misc. Academic research, teaching, training.

## **Projects and Funds**

#### **Projects**

Research on analyzing the chain of security incidents

13th Five-Year Plan "Comprehensive Risk Assessment Technology for Public Security in the
Winter Olympics" project. Participating members.

2021-2022 Research on Performance Evaluation System for Research Institutes

Cooperative Project of Beijing Institute of Labour Protection Science. Participating members.

Research on Non-Oil Integrated Supply Chain
China National Petroleum Corporation Co-operation Project. Participating members.

#### **Funds**

Graph models and algorithms for cancer regulatory network construction and pathway analysis

National Key Research and Development Special Project. Participating members.

Heterogeneous network-based single-cell multi-omics data integration study
The Startup Foundation for Introducing Talent of NUIST. Responsible person.

## Miscellaneous Experience

### **Awards and Achievements**

2022 **Schlumberger Scholarships**, University of Chinese Academy of Sciences.

2020 Merit students, University of Chinese Academy of Sciences.

2018 Xiangtan University 2018 Outstanding Graduates, Xiangtan University.

**Xiangtan Outstanding Graduates**, Xiangtan University.

2017 National Inspiration Scholarship, Xiangtan University.

2016 **Outstanding Student Cadre**, Xiangtan University.

**National Scholarships**, Xiangtan University.

**Scholarships in Basic Subjects**, Xiangtan University.

Advanced Individual, Xiangtan University.

Second Prize of Mathematics Competition for College Students in Hunan Province (Mathematics Category), Xiangtan University.

■ Third Prize of the Eighth National University Student Mathematics Competition (Mathematics Major), Xiangtan University.

2015 Class A Scholarships, Xiangtan University.

**Xiangjiang Scholarships**, Xiangtan University.

#### Certification

National Computer Rank Examination level 2.

2016 College English Test-6.