Wenjing Ma

Last Updated Jun 26, 2022

Ph.D. candidate, Computer Science and Informatics (BMI track), Emory University
wenjing.ma@emory.edu | Department of Computer Science, 201 Dowman Dr., Atlanta, GA 30322
Personal website: http://www.mathcs.emory.edu/~wma36

Education

Ph.D. student in Computer Science (Biomedical Informatics Track) *expected 2024*
Department of Computer Science, Emory University, Atlanta, GA, U.S. GPA: 4.0/4.0
Advisor: Dr. Hao Wu

Visiting Scholar in Bioinformatics *08/2018 -- 06/2019*
Center for Public Health Genomics, University of Virginia, Charlottesville, VA, U.S.
Advisor: Dr. Chongzhi Zang

M.S. and B.S. in Computer Science and Technology *09/2010 -- 06/2017*
Beijing University of Posts and Telecommunications (BUPT), Beijing, China Rank: 20/297

Professional Experience

Database Administrator *08/2017 -- 06/2018*
Investment Center, State Administration of Foreign Exchange, Beijing, China

Research Interests

- Develop machine learning and deep learning methods with applications in single-cell genomics data
- Integrate single-cell multi-comics data to reveal cell-type-specific gene regulatory network and explore epigenetic diseases such as neurodegenerative disease, obesity, cancer, etc.

Publications and posters

(*: equal contribution)

Peer-Reviewed Journal

1. **Wenjing Ma**, Sumeet Sharma, Peng Jin, Shannon L. Gourley, Zhaohui Qin. *LRcell*: detecting the source of differential expression at the sub–cell-type level from bulk RNA-seq data. *Briefings in Bioinformatics*, (2022). DOI [R package]
    - 20-min talk @ AWSOM Workshop 2022;
2. **Wenjing Ma**, Kenong Su, Hao Wu. Evaluation of some aspects in supervised cell type identification for single-cell RNA-seq: classifier, feature selection, and reference construction. *Genome Biology*, (2021). DOI [project link]
    - Honorable Mention Poster @ GSD 2021;
    - Best 5-minute presentation award @ Emerging Data Science Methods for Complex Biomedical and Cyber Data 2021

3. **Wenjing Ma***, Zhenjia Wang*, Yifan Zhang, Neal E. Magee, Yayi Feng, Ruoyao Shi, Yang Chen, Chongzhi Zang. BARTweb: a web server for transcriptional regulator association analysis. *NAR Genomics and Bioinformatics*, (2021). DOI [website] [RECOMB 2019 poster]

Collaborations

4. Yulin Jin, Kenong Su, Ha Eun Kong, **Wenjing Ma**, Zhiqin Wang, Yujing Li, Ronghua Li, Emily Allen, Hao Wu, Peng Jin. Cell-type specific DNA methylome signatures reveal epigenetic mechanisms for neuronal diversity and neurodevelopment disorder. *Human Molecular Genetics*, (2022) DOI

Under Review

5. **Wenjing Ma**, Jiaying Lu, Hao Wu. Cellcano: supervised cell type identification for single cell ATAC-seq data. *Under review at Nature Communications*, (2022). [Python package] [Documentation]
6. Shengen Shawn Hu, Lin Liu, Qi Li, **Wenjing Ma**, Michael J. Guertin, Clifford A. Meyer, Ke Deng, Tingting Zhang, Chongzhi Zhang. Accurate estimation of intrinsic biases for improved analysis of chromatin accessibility sequencing data using SELMA. *Under review at Nature Communications,* (2021).
7. Sumeet Sharma*, **Wenjing Ma***, Kerry J. Ressler, Thea Anderson, Dan. C. Li, Peng Jin, Shannon L. Gourley, Zhaohui Qin. Dysregulation of prefrontal oligodendrocyte linage cells across mouse models of adversity and human major depressive disorder. *Under review*, (2021).

Honors

Women in Natural Sciences Fellowship — *Emory University, U.S., 2019 -- Present*

Teaching Experiences

BIOS 555**:** High-throughput data analysis using R and Bioconductor — *Fall 2022*

QTM 100: Intro to Statistical Inference - teaching weekly lab in R programming — *Fall 2021*

CS 584: Biomedical Image Analysis - teaching assistant — *Spring 2021*

CS 253: Data Structures and Algorithms - teaching assistant — *Fall 2020*

CS 224: Foundations of Computer Science - teaching assistant — *Spring 2020*