Xi Luo

Shenzhen, China luoxi2000@126.com 86 13363931388 XiLuo

Education

Southern University of Science and Technology *2022-2025*
Master of Science in Biology

- GPA: 3.65/4.0
- Supervisor: Dr.Chen Xi

Southern University of Science and Technology *2018-2022*
BS in Bioinformatics

- GPA: 3.2/4.0
- Supervisor: Dr.Chen Xi

Peking University Shenzhen Graduate School *Mar, 2024 -Jul, 2024*
Semester Exchange

- GPA: 4.0/4.0

University of California, Berkeley *Jan,2020 -Jun, 2020*
Semester Exchange

- Courses: Neurobiology of Disease (Helen Bateup);Quantitative Methods in Biology (Rasmus Nielsen); Biochemistry: Pathways, Mechanism, and Regulation (Michael Marletta)

Research Experience

Graduate Research *2022-2025*
SUSTech

- Collaborated with physician-scientist Dr.Wang Tianren at HKU Shenzhen Hospital on molecular differences between embryos from mothers of different ages. Performed scRNA-seq analysis on human embryos at post-implantation stage. Analyzed large-scale single-cell datasets of up to 6200 cells. Results under validation by Marta Shahbazi at MRC Laboratory of Molecular Biology, UK
- Single cell multiomics analysis including scRNA-seq and scATAC-seq.

Undergraduate Research *2021-2022*
SUSTech

- Developed an interactive tool for single-cell transcriptome analysis using R Shiny. Created a user-friendly web interface for non-bioinformatics users. Project details available on GitHub

Work Experience

App Development Team Leader 2019-2020

- Founded and led an interdisciplinary app development team. Hired and managed CS major and Business major students. Gained valuable experience in entrepreneurship and team management

Conferences and Poster Presentations

- The Second International Conference on Single-cell and Spatial Omics *Mar, 2024*
- The Fourth Annual Meeting of EMBL Alumni in China *Dec, 2023*
- National Key Research on Biotechnology and Information Technology: Cell Atlas Project *Feb, 2023*
- Poster: Molecular Mechanisms Underlying Age-Related Changes in Early Post-Implantation Human Embryo Development,SUSTech *Nov, 2023*

Skills

1/3 Bioinformatics:

- **scRNA-seq** (STARsolo, Seurat, Linux): Proficient in performing single-cell RNA sequencing scRNA-seq. Skilled in using STARsolo and Seurat for scRNA-seq data alignment, normalization, dimensionality reduction, and clustering to identify cell subpopulations and differential gene expression. Especially using pseudobulk method to find robust DE genes between conditions in each cluster. Pathway analysis using **GSEA** and **clusterprofiler**.
- scATAC-seq analysis: For scATAC-seq data (Signac), experienced in processing within a Linux environment using Snakemake to perform alignment, peak calling, quality control, and downstream analysis in Signac.

2/3 Programming:

- **R**: Highly skilled in using R for biostatistical analysis, handling high-dimensional and complex biological datasets. Specialized in using **inferCNV** for analyzing copy number variations, and **miloDE** for differential expression analysis of single-cell data to investigate dynamic changes across cell populations. Other package-using codes are on GitHub.
- **Shiny**: Expert in developing **interactive web** applications using Shiny, creating functional platforms for biological data visualization and exploration.

3/3 Data Visualization & Scientific Writing:

- **Adobe Illustrator**: Skilled in creating high-quality scientific figures and detailed illustrations using Adobe Illustrator. Proficient in designing professional **posters** for conferences, ensuring that data is visually compelling and easy to understand. Capable of generating schematic diagrams, models, and other graphics that effectively communicate research findings for papers and presentations.
- **LaTeX**: Proficient in using LaTeX for scientific writing and document formatting, including creating polished **Beamer** presentations for academic talks and well-structured **PDF** documents. Experienced in writing and formatting research papers in Englis, ensuring precise, professional content delivery.

Language Proficiency

TOEFL iBT Score: 96

Career Goals

Aspiring to leverage my strong background in Biology, bioinformatics, and entrepreneurship to contribute to innovative research and development in the biotech industry. Seeking opportunities to apply my skills in data analysis, tool development, and cross-disciplinary collaboration to drive advancements in biological research and its practical applications.

References

1. Dr. Chen Xi, Professor of Systems Biology, Southern University of Science and Technology, chenx9@sustech.edu.cn