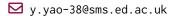
YUELIN YAO



@yaoyuelin11

https://yuelinyao.github.io/

Education

Nov 2020 – Ongoing

Ph.D. Bioinformatics, University of Edinburgh, UK

School of Informatics, IANC: Machine Learning, Computational Neuroscience, Computational Biology.

Thesis title: High order expression dependencies finely resolve cell (sub)type and state in single cell data.

Sep 2019 - Sep 2020

M.Sc. Bioinformatics, University of Edinburgh, UK

School of Biological Sciences, Graduated with Distinction.

Thesis title: Comparative transcriptome in large-scale human and cattle populations.

Sep 2015 - Jun 2019

B.Sc. Plant Protection, Zhejiang University.

College of Agriculture and Biotechnology, GPA: 3.63/4.0.

Thesis title: Functional analysis of genes related to development and reproduction of Nila-parvata lugens.

Experience

Biomedical AI Lab

Nov 2020 - Ongoing

- Developed state-of-the-art pipeline and computational tool for **scRNA-seq** data analysis.
- Estimated **mutational interactions** across pancancer from WGS data.
- Received training in **Causality in Biomedicine Course**, and **Neuromatch Deep Learning Course**.

Jan 2022 - Ongoing

- Teaching. Tutor and marker of **Methods for Causal Inference Course.**
- Supervised Bachelor's thesis & MSc dissertations.
- Dec 2023
- Presented poster at **CSHL Genome Informatics**, New York State, US.
- Nov 2022
- Presented poster at **CSHL The Biological Data Science conference**, New York State, US.
- Jun 2022
- Summer School. **Dynamics and Statistics of Cancer Evolution: Applying Mathematics to Experimental and Clinical Data** Summer School in Marseille, France.
- May 2021
- Presented poster at **CSHL The Biology of Genomes virtual conference**.

Quantitative Genetics Lab

Jan 2020 - Sep 2020

- Systematic comparison of **transcriptional landscape & eQTL** of all orthologous genes across major tissues among mammals.
- Integrative analysis of characterised regulatory elements with **large-scale GWAS** to understand shared & divergent genetic architecture underlying complex phenotypes.

Awards and Achievements

- The Scottish Informatics & Computer Science Alliance (SICSA) Research Scholar
 - Chinese Government Award for Outstanding Self-Financed Students Abroad
 - **■** The Institute of Genetics and Cancer POGS Event Best Poster
- 2022 The Institute of Genetics and Cancer Early Career Award
 - **■** Informatics Graduate School PGR Student Travel and Conference Fund
- 2020 School of Informatics PhD Scholarship, University of Edinburgh

Skills

Coding R, Python, Java, SQL, HTML, Shell, Docker, Git, Nextflow, LTFX.

Technical Skills Machine learning, Statistical modelling, High-throughput bioinformatics analysis.

Languages Strong reading, writing and speaking competencies for English, Mandarin Chinese.

Publications

A. Jansma*, **Y. Yao***, J. Wolfe, *et al.*, "High order expression dependencies finely resolve cryptic states and subtypes in single cell data," *bioRxiv*, pp. 2023–12, 2023.

S. H. Waddell*, **Y. Yao***, P. Olaizola, *et al.*, "A TGF- β -ECM-integrin signaling axis drives structural reconfiguration of the bile duct to promote polycystic liver disease," *Science Translational Medicine*, vol. 15, no. 713, eabq5930, 2023.

- **Y. Yao**, S. Liu, C. Xia, *et al.*, "Comparative transcriptome in large-scale human and cattle populations," *Genome Biology*, vol. 23, no. 1, pp. 1–24, 2022.
- Z. Pan*, **Y. Yao***, H. Yin, *et al.*, "Pig genome functional annotation enhances the biological interpretation of complex traits and human disease," *Nature Communications*, vol. 12, no. 1, p. 5848, 2021.
- S. Liu, Y. Gao, O. Canela-Xandri, ..., **Y. Yao**, et al., "A multi-tissue atlas of regulatory variants in cattle," *Nature Genetics*, vol. 54, no. 9, pp. 1438–1447, 2022.
- T. Jinyan, Y. Gao, ..., Y. Yao, et al., "A compendium of genetic regulatory effects across pig tissues," *Nature Genetics*, 2024.
- W. Yang, J. Yu, **Y. Yao**, *et al.*, "Comparative immune-relevant transcriptome reveals the evolutionary basis of complex traits," *Iscience*, vol. 25, no. 12, p. 105 572, 2022.
- D. Guan, Z. Bai, X. Zhu, ..., **Y. Yao**, *et al.*, "The chickengtex pilot analysis: A reference of regulatory variants across 28 chicken tissues," *bioRxiv*, pp. 2023–06, 2023.
- W. Wang, R.-R. Yang, L.-Y. Peng, L. Zhang, **Y.-L. Yao**, and Y.-Y. Bao, "Proteolytic activity of the proteasome is required for female insect reproduction," *Open Biology*, vol. 11, no. 2, p. 200 251, 2021.
- S. Mi, Y. Tang, ..., **Y. Yao**, *et al.*, "Protective roles of folic acid in the responses of bovine mammary epithelial cells to different virulent staphylococcus aureus strains," *Biology*, vol. 10, no. 11, p. 1164, 2021.