Jierui (Jerry) Xu

jierui.xu@berkeley.edu |2308 Haste Street Apt C, Berkeley, CA | +1 (510) 570-9331| linkedin.com/in/xu-jierui/

Education

University of California, Berkeley Expected Graduation Date: May 2024
Simultaneous Degrees: Computer Science & Molecular and Cell Biology GPA: 3.9
Related Courses: Principles and Techniques of Data Science, Programming, Data Structure, Computer Graphics, Database System, Machine Learning, AI, Computational Functional Genomics, Honors Research
Awards: Leadership Award Scholar ($2k) for 4 consecutive years, Cal Alumni Association

Work Experience

Elemento Lab at Weill Cornell, Tri-I Computational Biology Summer Program **New York, USA**
Summer Research Assistant *June 2023 – Oct 2023*

- Worked on precision medicine in Weill Cornell to infer drug response in cancer patients by using tumor organoid bulk RNA-seq
- Independently built several ML models using patient-centric features and picked Random Forest to show predictability in 14 drugs
- Cleaned and merged data frames and tested several feature selection techniques to avoid overfitting and improve performance
- Cross-validated model trained on organoids with other public studies, such as cell line database GDSC and patient database TCGA
- First-authored research paper in preparation; responsible for all figures and most writing

Moorjani Lab, Center of Computational Biology **Berkeley, USA**
Research Assistant *July 2021 – Present*

- Working on computational biology research of human genetics to investigate local ancestry inference in admixed population
- Benchmarked several research software (ELAI, MOSAIC, RFmix) in Python using Han Chinese, French, and Onge population data
- Streamlined msprime simulation process using Snakemake on Berkeley High Performance Computing cluster Savio
- Compared taxonomy classification software Kraken2, Kraken2-Uniq, Centrifuge performance on simulated ancient DNA reads
- Testing mapping-first (BWA) and classification-first (Centrifuge) strategy on sediment DNA data (Honor thesis project)

AHEAD Medicine **Berkeley, USA**
Machine Learning Scientist - Part Time *June 2022 – August 2022*

- Wrote python script to streamline flow cytometry data analysis on patient samples taken from National Taiwan University Hospital
- Designed an automation pipeline using unsupervised learning and clustering to classify tumor and normal cell groups

Bain & Company **Shanghai, China**
Part-time Assistant *April 2021 – October 2021*

- Fully participated in a manufacturing industry case to design a market entry strategy into China for a glass substrate company
- Conducted desktop research on upstream raw material market and downstream smartphone market to generate multiple reports
- Cold called 10+ experts to collect information for market overview and competitive landscape analysis

Leadership and Extracurricular Activities

Berkeley China Summit **Berkeley, CA**
Co-President *Jan 2023 – Jan 2024*

- Lead a group of 20 undergraduates and MBA students and responsible for event site planning and company sponsorships
- Organized one of the largest summits at Berkeley with 30+ high-profile speakers (including Nobel Laureate) and 300~ participants
- Achieved to receive 5 company sponsorship confirmation with more than 25k in revenue (www.berkeleychinasummit.org)

Associated Students of the University of California **Berkeley, CA**
ASUC Senator *July 2021 – May 2022*

- Lead an office of 40+ people to promote better school experiences for students in the International and East Asian community
- Sat on the Finance Committee of the student government to oversee and allocate $1.5 million for student organizations

Presentations

Jierui Xu*, Elena Zavala*, and Priya Moorjani. Enhancing Sediment DNA Analysis: An Automated Pipeline for Genomic Analysis. Poster presentation conducted at Bay Area Population Genomics Conference (BAPG), Stanford University, Stanford, CA, December 2nd 2023.

Jierui Xu, Bhavneet Bhinder, Olivier Elemento. Gene expression profiles from patient derived organoids predict drug sensitivity in cancer. Poster presentation delivered at mcbUSA Research Symposium, University of California at Berkeley, Berkeley, CA, September 30th 2023.

Skills and Interests

Skills: Python (advanced), Bash/UNIX (advanced), Java (intermediate), R (familiar), C, Microsoft Office, Excel, PowerPoint
Specifics: Pandas, NumPy, scikit-learn, PyTorch, Seaborn, SAMtools, BWA, Kraken2, Centrifuge, slurm, msprime, scprep