Wei Zhang

Postdoctoral Fellow

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Summary

Postdoctoral fellow with 3 years of postdoctoral research and a PhD in molecular genetics, studying gene regulation in heart disease with CRISPR screens and single-cell RNA-seq. Combines molecular biology bench work with Python and R analysis, has 7 peer-reviewed papers, holds a funded NIH F32 fellowship and mentors 3 trainees in the lab.

Experience

Postdoctoral Fellow

Gateway Institute for Genomic Medicine — St. Louis, MO — 09/2023 - Present

Independent biomedical research institute; cardiovascular genomics lab of 14.

- Lead a CRISPR screen of **1,800** regulatory elements in stem-cell-derived heart cells, finding 23 that control fibrosis genes.
- Build single-cell RNA-seq analysis pipelines in Python and R covering 250,000 cells from 12 donors.
- Train machine learning models that predict enhancer activity from DNA sequence, reaching 0.82 AUROC on held-out data.
- Write manuscripts and grant aims, publishing 2 first-author papers and winning a 3-year NIH F32 fellowship.

Bioinformatics Intern

Great Lakes Genomics — Ann Arbor, MI — 05/2021 - 08/2021

Clinical genomics company; summer internship during PhD.

- Created a variant annotation workflow in Python for 2,000 exomes used by the clinical genomics team.
- Benchmarked 3 RNA-seq aligners on 120 samples and recommended the fastest option with matching accuracy.
- Documented the new data analysis workflow and taught it to 5 analysts, who ran 600 cases in month one.

Research Technician

Huron Valley Biomedical Labs — Ann Arbor, MI — 06/2016 - 07/2018

Cardiac biology research group; full-time role before graduate school.

- Ran PCR genotyping for a 400-cage mouse colony and maintained breeding records for 6 transgenic strains.
- Performed Western blots, immunostaining and cloning for 3 cardiac biology projects.
- Analyzed cardiac imaging data with custom MATLAB scripts, cutting manual quantification time by 60%.
- Co-authored 2 papers from colony and imaging work completed in the lab.

Education

Doctor of Philosophy

University of Michigan

Molecular Genetics

Ann Arbor, MI

08/2023

Skills

Molecular Biology	—	CRISPR Screening	—	Single-Cell RNA-seq	—	PCR
Python	—	R	—	Machine Learning	—	MATLAB
Data Analysis	—	Grant Writing				