

Zachary Qian

RESEARCHER · MATHEMATICIAN · DATA SCIENTIST

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Education

University of California, Los Angeles

Los Angeles, CA

BACHELOR OF SCIENCE (B.S.), APPLIED MATHEMATICS

SPECIALIZATION IN COMPUTING

Sept. 2018 - June 2022

MINOR, BIOINFORMATICS

- **GPA:** 3.802/4.0
- **Relevant Coursework:** Algorithms, Data Structures, Data Science in Python, Real Analysis, Optimization, Advanced Probability Theory, Mathematical Finance, Fluid Dynamics, Discrete Mathematics, Nonlinear Dynamical Systems, Abstract Linear Algebra, Machine Learning

Research/Experience

NIH Research Fellow

Ann Arbor, MI

UNIVERSITY OF MICHIGAN

June 2021 - Present

- Recipient of the NIH's NHLBI's Grant at the University of Michigan, where I will be working with Professor Jian Kang in machine learning and deep learning with imaging data.

Bioinformatics Undergraduate Researcher

Los Angeles, CA

INSTITUTE FOR QUANTITATIVE AND COMPUTATIONAL BIOSCIENCES (ADVISOR: ALEXANDER HOFFMANN, PHD.)

January 2019 - Present

- Research focus in **machine learning and statistical methods** in genomics data
- Implemented differential expression analysis and a **novel time-course analysis** that identified **nine statistically significant sets of genes** demonstrating transient gene expression; **visualized these novel expression dynamics** with heatmaps and time-series graphs (R, edgeR, TcGSA, ggplot2)
- Built machine learning pipeline for psoriatic arthritis prediction that yielded **AUC scores of over 0.84 and up to 0.95** while also narrowing down **<200 highly associated features** from **600,000+** initial features (Python, scikit-learn)
- Currently performing methylomic data analysis and generative learning on histopathology imaging data (methylnet, Tensorflow, PyHist)

Biostatistics Student Research Intern

Philadelphia, PA

DEPARTMENT OF BIostatISTICS, EPIDEMIOLOGY, AND INFORMATICS AT THE UNIVERSITY OF PENNSYLVANIA

June 2017 - August 2017

(SUPERVISOR: PETER YANG, PHD.)

- Identified **10 significant biomarkers** for cardiac death among patients with CKD with survival analysis using clinical data and EKG metrics (R, survival, survminer)
- Used generalized linear modeling and Cox Proportional Hazards modeling to find **13 potential features** associated with cardiac death among CKD cases and compared with biomarkers found using survival analysis (R, glmnet)
- Transcribed findings in final capstone project

Projects

Twain

Los Angeles, CA

DEVX INCUBATOR

October 2018 - April 2020

- Twain is a smart scheduling to-do list. Hook up your Google Calendar, create a to-do list, and let Twain schedule your tasks around your existing events. Now available on the Chrome Store. For more, visit <https://twaintasks.com/>
- Created endpoints that delineate between completed and uncompleted tasks and interact with Google Calendar and Authorization APIs. (Node.js)

Skills

Technical Python, R, C++, Linux, SQL, MatLab, LaTeX, Microsoft Excel

Certifications Applied Machine Learning in Python (University of Michigan/Coursera)
Bloomberg Market Concepts

Extracurricular Experiences Akuna Capital University: Options 101
Wharton School of Business: Moneyball Academy Summer 2017 Cohort