Tony Zhang
Salt Lake City, UT | 385-887-3686
zhanghutony@gmail.com | LinkedIn | GitHub | Portfolio

EDUCATION

Bachelor of Science: Data Science Salt Lake City, UT
University of Utah | Salt Lake City, UT Anticipated Graduation: *April 2027*

Related Coursework: Machine Learning, Image Processing Basics, Applied Statistics, Visualization for Data Science, Database Systems, Software Practices, Data Wrangling, Visualization for Scientific Data.

RESEARCH EXPERIENCE

Undergraduate Research Opportunity Program (UROP) *September 2024 – Present*

- Worked with the Reeves Lab at the Huntsman Cancer Institute to develop a computational simulation for exploring tumor heterogeneity under the mentorship of the Adler Lab at the University of Utah.
- Implemented a simulation of one-dimensional chemokine gradients in heterogeneous tumors using R.
- Modeled T-cell distribution within tumor environments to replicate observations from squamous cell carcinoma studies.
- Applied computational techniques to analyze spatial organization of Intratumoral immune responses, contributing to advancements in tumor immunology research.
- 1D Chemokine Gradient Simulation Code found here: GitHub Repository

Student Research Initiative (SRI) *January 2024 – December 2024*

- Wrote over 20 Python and R scripts for statistical analysis and visualization, allowing for data exploration of cancer biology research projects.
- Worked with a team of 5 researchers in the Judson-Torres lab to analyze melanoma cell interactions and behaviors.
- Wrote Python and R scripts to perform a spatial data analysis of the relationship between the amount of BRN-2 protein being expressed among neighboring melanoma cells.
- Developing machine learning models using Python and scikit-learn to classify the quality of melanoma cell tracks gathered from a process known as Quantitative Phase Imaging.

AWARDS

Undergraduate Research Opportunity Program (UROP) – [University of Utah] (2 Semesters)

- Selected for a competitive undergraduate research funding program, receiving a stipend of $1,200 for 120 hours of research work during each semester.
- Project Title: Modeling the Immune Response to Heterogeneous Tumors.

Dean's List – [University of Utah] (Fall 2023-Fall 2024)

- Earned for maintaining a GPA above 3.5/4.0 across 4 consecutive semesters.
- Current Cumulative GPA: 3.9/4.0.

Flagship Scholarship – [University of Utah] (Fall 2023 – Spring 2027)

- Merit-based scholarship awarding $3,500 per semester for Fall and Spring semesters over four years, totaling $28,000.

COURSE PROJECTS

Urban Growth Visualization GitHub Repository

Key Skills: D3.js, Web Development, Data Visualization, JavaScript, HTML, CSS, Data Analysis

- Developed interactive data visualizations of urban growth trends (2012–2024) using D3.js, HTML, CSS, and JavaScript.
- Analyzed urban data factors including housing prices, population changes, job availability, and median income.
- Presented insights through intuitive and dynamic web-based visualizations, enabling informed decision-making for urban planning.