Bruce (Yiwen) Zhang

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Education

University of California, Los Angeles **Expected Graduation:** *Jun. 2025*
B.S. in Applied Math, B.S. in Statistics and Data Science *Cumulative GPA: 3.67*

Experience

UCLA Mobility Lab *Undergraduate Research Assistant* *May 2024 – Now*

- Created multiple data visualizations using Python to illustrate findings and enhance project presentations
- Established and maintained a website to showcase research projects, papers, and visualizations
- Conducted data preprocessing, cleaning, analysis, and applied machine learning techniques on large datasets
- Self-taught various data visualization techniques and web development skills to effectively communicate project results

Learning Assistant Program at UCLA *Learning Assistant for Stats 20 & Chem 20A* *Sep. 2023 – Mar. 2024*

- Collaborated with other Learning Assistants to foster a collaborative learning environment for R programming
- Offered assistance and instant feedbacks to students by holding office hours and review sessions
- Developed strong pedagogical experiences and skills by assisting 100+ students

Previous Projects

Activity Chain Visualization *Jun. 2024 – Aug. 2024*

- Preprocessed a data set containing activity chains and demographic data of over 300 thousand Los Angeles residents
- Explored the possibility of utilizing hidden markov chain in predicting an activity chain
- Utilized Python packages (pymovie, d3blocks) to create visualizations which assists the comprehension of individuals' daily activities

Optimization of an SIR Model & Analysis on Superspreaders' Effect in Pandemics *Nov. 2023 – Dec. 2023*

- Simulated with Monte Carlo methods upon 2-dimensional space to propose significant improvements for more accurate epidemic forecasting
- Thoroughly evaluated the effects of superspreaders and offered insights into future model developments

Predicting Alcoholic Status from Persons' Vitals *Oct. 2023 – Dec. 2023*

- Cleaned, imputed and analyzed data set of 27 columns and 100,000 rows containing missing values
- Adopted machine learning methods of XGBoost, Random Forest, Logistic Regression and more for prediction purpose

A/B Test Design and Data Analysis on Impacts of Caffeine to STM *Aug. 2023 – Sep. 2023*

- Designed experimental study to investigate the correlation between short-term memories and intake of caffeine on residents of The Island (virtual population maintained by University of Queensland)
- Determined sample size and obtained 180+ observations and conducted tasks of data cleaning, analysis and visualization
- Documented, summarized and reported the conclusion of caffeine does not induce changes in STM

Skills

Technical Skills: proficient in R and Python;

Other Tools: SQL; NumPy, Pandas, Matplotlib, Scikit-learn packages in Python; tidyverse, ggplot2, dplyr packages in R; LaTeX; Powerpoint; Git; Tableau;