Jingzhi(Edward) Sun

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EDUCATION

UNIVERSITY of CALIFORNIA, DAVIS   **Davis, CA**
M. S., Statistics, GPA: 4.0 / 4.0   Sep 2023 – Jun 2025 (expected)
- Courses: *Computational Statistics(A+, with Ph.D), Machine Learning in Genomics(A+, with Ph.D), Real Analysis (A+), Deep Learning Theory (A, with Ph.D), Mathematical Statistics I (A, with Ph.D), Regression Analysis (A, with Ph.D)*

FUDAN UNIVERSITY   **Shanghai, China**
B.S., Statistics, GPA: 3.43 / 4.0, Major GPA: 3.7 / 4.0   Sep 2017 – Jun 2022
- Courses: *Time Series Analysis (A), Deep Learning(A), Stochastic Process(A), Data Structure(A), Nonparametric Statistics(A)*
- Thesis: *Dota2 Mid-line AI based on Deep Reinforcement Learning*, Supervisor: Yin Xia
- Exchange Experience: UC DAVIS, Aug 2019 - Jan 2020, GPA: 3.81 / 4.0

ACADEMIC EXPERIENCE

Enhanced Algorithm for Metacell Clustering in Single-Cell RNA Sequencing   **Los Angeles, CA**
Research Assistant, Advisor: Jessica Jingyi Li (UCLA, Statistics)   Jun 2024 – Present
- Conducted research on improving metacell clustering for single-cell RNA sequencing data by integrating biological data features into modularity optimization.
- Developed and implemented an enhanced Louvain algorithm incorporating a penalty term for gene-gene correlation matrices, with tests for identity approximation to ensure robust clustering.
- Explored the application of Optimal Transport (OT) methods for refining clustering accuracy and alignment with biological characteristics.

Causal Effects of LA Mobility Wallet on Low-Income Populations   **Davis, CA**
Research Assistant, Advisor: Christiana Drake(Bio-statistics); Caroline Rodier(Transportation)   Jan 2024 – Present
- Participated in an ITS project focusing on the impact of the Los Angeles Mobility Wallet initiative on low-income populations, contributing to experimental design, sampling methods, and results visualization.
- Helped design the project's methododology, leveraging Difference-in-Differences (DID) models to ascertain causal impacts, with involvement spanning from preliminary to mid-term results.

Cluster Analysis on Diet Quality   **Davis, CA**
Research Assistant, Advisor: Christiana Drake(Bio-statistics); Nancy L Keim(USDA)   Oct 2023 – Present
- Identified three distinct dietary clusters through unsupervised k-means clustering, validated by scree plots to ensure optimal variable grouping.
- Used ANOVA and post-hoc pairwise comparisons to assess differences in physical characteristics and health indicators, such as BMI and body fat mass, across dietary clusters.
- Revealed a significant negative correlation between the consumption of starch foods, particularly potatoes, and the Healthy Eating Index (HEI) scores. The clustering approach employed in this study effectively demonstrated the capability of "My Veggie" in accurately identifying dietary habits.

WORK EXPERIENCE

Sell Side Quant Model Based on Penalized Regression   **Redington Ltd. , China**
Quant Intern, Advisor: Muqiu Liu   Jan 2019 – Mar 2019
- Conducted predictive analysis on the SP China Bond Index using LASSO regression, on a dataset of tradable bonds in China spanning from 2008 to 2018.
- Developed a user-friendly interface for the company's Readlm model, enhancing operational efficiency and facilitating accurate financial forecasting.

AWARDS & HONORS

Outstanding Master Student Award: *Award for outstanding academic performance, UC Davis Department of Statistics*   2024
Siyuan Project VI: *School top 1%, Fudan University*   2018
Chinese Chemistry Olympiad (CChO): *First Prize in Beijing, ChemSoc*   2016

SKILLS

Programming: Python, SAS, R, MATLAB, LaTeX
Hobby: Musical Theatre, Dota2, Cooking