Kejing Yan

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EDUCATION

Brown University, Providence, RI **September 2024 - May 2026**

Sc.M. in Data Science

Boston University, Boston, MA **September 2020 - January 2024**

Bachelor of Arts in Statistics, *Minor* in Computer Science GPA: 3.87/4.00 (*Magna Cum Laude*)

EXPERIENCE

Boston University, Motor Development Lab, Boston, MA **August 2023 – February 2024**

Research Assistant, Advisor: Dr. Simone Gill

- Collaborated on multiple interdisciplinary projects, was primarily responsible for advanced machine learning algorithms and statistical data analysis, contributing to the understanding of motor behavior and decision-making in high-stress and health-related contexts.
- Utilized supervised learning methods, including Random Forest Regressor and SVM, built predictive models and enhanced the accuracy of research findings by 6.1%, with results presented to stakeholders for further research and clinical applications.
- Developed data pipelines for large datasets, optimized data preprocessing, and ensured seamless integration of data across projects for enhanced efficiency and consistency in analysis.

PricewaterhouseCoopers(PwC), Shanghai, China **June 2023 – August 2023**

Advisory Intern

- Conducted market research, analyzing digital redesign trends and competitor data in the automotive industry.
- Participated in a world-leading luxury auto brand price elasticity project proposal, contributing to scope determination, resource planning, budget estimation, and schedule development. The proposal received client approval, initiating subsequent work successfully.
- Collaborated on crafting a strategic plan for the after-sales service system, assessing client business requirements, and delivering a comprehensive blueprint for business expansion and operational efficiency.

Xiaohongshu(RED), Shanghai, China **June 2021 – August 2021**

Admin Intern

- Optimized the daily meal plan for the Shanghai branch staff, maintained real-time communication with suppliers, organized meal trials, and constructed a voting system to obtain employee input.
- Conducted surveys to colleagues, used Tableau to create visualizations from survey results, proposed plans for employee recreational club system development, and eventually established 10+ recreational clubs.
- Participated in '82 Corporate Anniversary', responsible for handling personnel statistics and managing meal suppliers, covering three cities and 5,000 attendees.

ACADEMIC PROJECTS

Can Young Adults Flexibly Shift Attentional Focus When Texting While Walking: Effects of Different Cognitive and Motor Tasks

- Utilized a computer-based observation system and Zeno Walkway to code young adults' motor behaviors about the timing and location of footfalls during walking experiments.
- Conducted data engineering, including cleaning and feature selection, performed LASSO regression to identify influential variables, and applied XGBoost to rank significant factors, such as CV step time, CV stride length, and CV velocity, affecting motor behavior.
- Proved additional cognitive load had a significant effect on gait variability when faced with the highest obstacle in the experiment, and young adults prioritize their texting task even when they are facing risky circumstances.
- Submitted study abstract to the American Society of Biomechanics (ASB) Conference, 2024.

Refining Distribution-Free Population Percentile Estimator by Monte-Carlo Simulation

- Employed the Monte-Carlo Simulation to estimate the distribution of various percentiles to speculate biased estimators of percentile estimation.
- Calculated Beta distribution parameters while optimizing the minimum distance between Beta CDF and resulted percentile estimation CDF, and assessed the appropriateness of the approximated CDF by using Anderson-Darling Test.
- Developed a new algorithm of original Anderson-Darling Test with higher computing speed to enhance efficiency.
- Presented at the MAA Northeastern Fall 2023 Section Meeting on 17th November 2023.

Factors Contributing to Whether or Not People with Obesity Undergo Bariatric Surgery

- Investigated demographic, medical, and experiential factors influencing the decision to undergo bariatric surgery among individuals with obesity, using data from a large cross-sectional survey (N = 4192).
- Facilitated data cleaning and engineering, and conducted bootstrap in the modeling process to obtain confidence intervals for the coefficients of variables, not influential if 0 is included, as the client is interested in making probabilistic statements about the variable selection.
- Performed final multivariate logistic regression with selected variables and visualization to introduce the client with straightforward and accessible outcomes, and client agreed and utilized the final model for their future study.

TECHNICAL SKILL

Programming Languages / Tool: MySQL, Python, R, Tableau, Java, Microsoft Office, Git

Machine Learning / Data: PyTorch, TensorFlow, NumPy, Pandas, Matplotlib, Scikit-learn, SciPy

Languages: English (Bilingual), Chinese (Primary), Japanese (Elementary), Cantonese (Limited Working)