JINXIANG MA

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EDUCATION

University of Michigan, Ann Arbor, Ann Arbor, MI — Expected Graduation: Jan 2025

Master of Science(M.S.), Industrial and Operations Engineering

Relevant Coursework: Linear Programming, Network Optimization, Integer Programming, Statistical Learning, Stochastic Process, Queuing Theory, Database Application Design, Advanced Experimental Design, Numerical Optimization, Data Envelopment Analysis, Risk Analysis

University of California, Santa Barbara(UCSB), Santa Barbara, CA — Graduated Jun 2023

Bachelor of Science(B.S.), Statistics and Data Science — GPA: 3.74

Awards: Dean's Honor (4 times)

Relevant Coursework: R Programming, SAS Programming, Python Programming, Probability Theory, Regression Analysis, Data Science Concept and Analysis, Mathematics of Fixed Income Markets, Bayesian Data Analysis, Nonparametric Statistics, Experimental Design, Financial Market Risk and Modeling, Time Series Analysis, Machine Learning, Predictive Modeling in Linguistic, Deep Learning, Big-Data Analytic

Bachelor of Art(B.A.), Mathematics

Relevant Coursework: Linear Algebra, Discrete Mathematics, Vector Calculus, Differential Equation, Real Analysis, Numerical Analysis, Operations Research, Number Theory

EXPERIENCE

Engineering Design Trainee (Data Science) — Jun 2022 - Aug 2023

San Francisco Public Utilities Commission — *San Francisco, CA*

- Analyzed and optimized budget allocation for Bay Area Infrastructure projects.
- Developed an advanced Staff Deliverability Forecasting tool utilizing Python and VBA to streamline project resource planning.
- Integrated 3+ data source systems into Data Warehouse for Infrastructure Projects.
- Proficiently maintained project records and generated summary reports using Primavera Unifier, ensuring accurate project tracking.
- Assumed the role of Intern Supervisor, delivering comprehensive training sessions to onboard new interns and providing continuous guidance on their daily tasks.

Data Analyst — Feb 2022 - Jun 2023

GoGaucho — *Santa Barbara, CA*

- Actively engaged in app development process of GoGaucho, a mobile app developed by UCSB students and provide service to over 10,000 users every month.
- Retrieved academic curriculum data using UCSB API. Analyze historical course enrollment and shared results with the GoGaucho team.
- Collected campus geographical data to construct an interactive map that assist UCSB students in finding classrooms.

Student Assistant — Sep 2021 - Jun 2023

DREAM Lab, UCSB Library — *Santa Barbara, CA*

- Assisted library users in cleaning and preparing data for analysis.
- Maintained statistic on the lab and identify IT issues.
- Answered student's questions in the Data Science Carpentry workshop and develop workshop materials.
- Completed multiple programming projects on speech processing and web-scraping.

RESEARCH

Student Researcher Jan 2024 - Now
SOCR Lab, University of Michigan *Ann Arbor, MI*
Research Project: Compressive Big Data Analytics (CBDA) Advisor: Ivo D. Dinov (Professor)

- Implement Python code to generate sub-sample for large dataset(40 Gb with over 1 million rows).
- Run R/Bash code to batch process subsampling task on SLURM Workload Manager.
- Apply Superlearner algorithm on small data samples and rank Superlearner prediction based on accuracy

Undergraduate Research Assistant Feb 2022 - Dec 2022
Social Perception Lab, UCSB *Santa Barbara, CA*
Research Project: Twitter Sentiment Analysis Advisor: Kyle Ratner (Professor)

- Scraped tweets data from Twitter using Twarc2 API.
- Cleaned and reorganized tweet data using regex and glob.
- Streamlined the existing code and performed sentiment analysis on LGBTQ tweets using Textblob and visualize the polarity and subjectivity of each tweet using the Altair package.
- Attended weekly meetings and shared results with other team members.

PROJECTS

Impact of Memory Size on Quasi-Newton Methods A comprehensive software package focusing on solving unconstrained optimization problems in Matlab. Explored and implemented a set of optimization methods, particularly focusing on answering the question of how the memory impact the performance of quasi-Newton methods (Link)

Time Series Forecasting on SFO Air Passenger Statistics. Conducted a comprehensive time series analysis on San Francisco International Airport (SFO) passenger data from 2005-2019 to forecast future passenger traffic. The project involved extensive data cleaning, transformation, and model diagnostics, leading to the selection of an optimal SARIMA model based on AICc criteria. (Link)

Understanding critical factors of Minority and Transferred Students in the U.S. Schools. Performed Simple Linear Regression and Multiple Linear Regression on college enrollment data to determine if any factors affect the number of college students, by calculating the goodness of fit using R-square and utilizing heat-map to detect multicollinearity between different factors. (Link)

Poverty Prediction with Census and Education Data Performed PCA on county-level census data and calculated PVE for each principal component. Conducted hierarchical clustering with complete linkage on each principal component. Predicted poverty rate with different classification methods such as decision tree, logistic regression, lasso regression, random forest, and LDA. Computed the AUC rate to measure the performance of each classification method. (Link)

Crafting S.L. Market Expansion Case studies of profitability in different business scenarios. Identified the constraints and construct Linear Programming models for each scenario. Analyzed supply chain base on Lingo Solution Report and Sensitivity Report, and provide insight on how to allocate resources to maximize profitability. (Link)

Navigating Interest Rate Risk Analyzed historical bond return data and simulate the possible outcome of Treasury bonds using the ESG model. Delivered recommendations on portfolio allocation for different investment horizons. (Link)

SKILLS

Programming Skills	Python, C++, SQL, SAS, JavaScript, HTML,CSS, R, Stan, Gurobi, VBA, Git, Bash, LaTeX, Django
Computer Software	Jupyter Notebook, Rstudio, MySQL, Matlab, Nvivo, Lingo, MS Office, SharePoint, Premavera Unifier, Google BigQuery, Overleaf
Languages	English(Fluent), Cantonese(Native), Mandarin(Native)