

XINYUE MA

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EDUCATION

New York University, Graduate School of Arts & Science

New York

Master of Data Science

Sep 2022 - May 2024

Relevant Courses: Optimization and Computational Linear Algebra, Machine Learning

Boston University, College of Arts and Sciences

Boston, MA

Bachelor of Science, Mathematics (Statistics) | Minor: Comp. Science | GPA: 3.84/4.00 | Magna Cum Laude, Dean's List May 2022

Relevant Courses: Linear Models, Stochastic Processes, Statistics, Probability, Time Series & Forecasting, Data Science in R

RESEARCH EXPERIENCE

Experimental Approaches for Tuning NIC Registers, Boston University

Boston, MA

Undergraduate Assistant

Sep 2020 - Dec 2021

- Conducted exploratory data analysis (EDA), feature selection and feature engineering on a dataset with 120K+ records from 2 NIC Registers using Pandas & NumPy in Python, identified & treated data anomalies, explored & visualized the pairwise relationships in the data using Matplotlib.
- Built a regression model using Sci-kit learn in Python to predict the energy-delay product; implemented gradient descent to optimize the model parameters, which resulted in an adjusted R-squared value of 0.75.
- Utilized the regression model to predict the energy-delay product with sets of new inputs, which helped to avoid running time-consuming and expensive experiments.

PROJECTS AND LEADERSHIP

Analysis of the US Saving Rate from 1960 to 2020 | R, Regression

Jan 2021 – May 2021

- Cleansed & processed past 60-year financial spend & saving records & 10+ macro-economic factors in US using dplyr in R, explored the data with trendlines, pie charts & bar graphs using ggplot2.
- Developed a linear regression model with glm in R to determine the impact of macroeconomic factors on American saving & spending behavior, summarized the project insights in webpage. (<https://economatrix.netlify.app/>)
- Detected multicollinearity with a correlation plot & implemented Mallows' CP Value in R (leaps) to identify the optimal linear regression model, achieved an adjusted R-squared value of 0.81.
- Designed & created an interactive webpage using Shiny which allowed users to explore & customize various linear regression models & evaluate efficacy of the custom model using 3 statistical metrics. (<https://economatrix.shinyapps.io/economatrix/>)

Mobile Application 'Timato' Development | Dart, SQL, Agile, Product Development

May 2020 – Aug 2020

- Developed a mobile application 'Timato' that implemented the Pomodoro Technique for users to them improve daily work/study efficiency, published the app on the App store & Google Play resulting in 100+ downloads.
- Led the conceptualization of the functionalities & designed the UI using Figma, built the frontend using Dart & SQLite as backend database with an Agile approach, produced custom SQL queries to realize each of the app functionalities.
- Conducted user acceptance testing for the app to ensure usability & eliminate bugs prior to launch.

WORK EXPERIENCE

Program Data & Evaluation Intern - 826 Boston, Boston, MA

Jan 2022 - Jul 2022

- Created & deployed an end-of-year survey to evaluate students' learning progress, gathered & cleansed 300+ student responses.
- Analyzed survey response data and visualized trends & patterns using pivot table & pivot chart in Excel to quantify the impact of the educational program & justify continued grant funding.
- Prepared & published weekly newsletter to 50+ internal stakeholders with recent updates in program highlights, professional development opportunities, and student resources.

Data Analyst Intern - University Service Center, Boston University, Boston, MA

Sep 2021 - Dec 2021

- Consolidated, cleansed & transformed data for students who withdrew or took leave from university in past 5 years with SQL.
- Performed quantitative & qualitative analyses using Python Pandas & NumPy, imputed missing data & treated outliers, visualized trends & patterns in the data with Matplotlib.
- Identified & showcased 3 key actionable insights & opportunity areas for the university to increase student retention.
- Presented data-driven recommendations to improve student retention to department heads, leading to increase of department-wide funding by 15% and launches of 2 programs dedicated to mental health and community-building activities for students.

Consultant Assistant Intern – Capgemini, Beijing, China

Jul 2021 - Aug 2021

- Designed Entity-Relationship diagrams to showcase database-design capabilities to 5+ prospective clients.
- Analyzed visitor behavior in 15+ amusement parks & ticket sales performance post new ticket system implementation using Tableau, prepared quarterly reports to showcase the impact of the new system on sales & presented to client leadership team.

Teaching Assistant for Intro to CS II - Computer Science Department, Boston University, Boston, MA

Jan 2020 – May 2022

- Conducted weekly lab sessions, resolved students' queries during weekly office hours & graded exams for 120+ students.
- Guided & mentored students on difficult CS concepts with additional study material.

SKILLS

Programming Languages: Python, SQL, Java, R

Analytical Tools: Tableau, Dart, Microsoft Excel, PowerPoint

Techniques: Machine Learning, Data Mining & Analysis

Languages: English (Advanced), Mandarin (Native)