Nayan James Jani

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EDUCATION

University of Massachusetts Amherst, Amherst, MA. February 2024
Master of Science Concentration: Data Analytics and Computational Social Science
Final GPA: 3.9
Relevant Courses: Advanced Quantitative Methods, Data-Driven Storytelling, Regression Models

University of Rhode Island, Kingston, RI. May 2022
Bachelor of Science Concentration: Data Science
Final GPA: 3.52
Relevant Courses: Machine Learning, Multivariate Statistical Learning, Big Data Analysis

SKILLS

General Skills: Quantitative Analysis, Machine Learning, Data Visualization, Data Storytelling, Data Cleaning
Tools & Software: Python (Pandas, Scikit-learn, NumPy, Scipy, Matplotlib), R (tidyverse, ggplot2), SQL

ACADEMIC EXPERIENCE

U.S. Job Satisfaction: Impacts of Tech, Remote Work & Covid-19, Amherst, MA Sept-December 2023
Project Owner

- Investigated if the move to more work from home and more use of technology at work post Covid-19 actually lead to any significant changes in job satisfaction for the working public in the USA.
- Developed two ordered logit GLMs using the MASS package in R using data from the 2018 and 2022 versions of the General Social Survey: a main effect model and an interaction model.
- Calculated predicted probabilities of job satisfaction for all significant variables using ggpredict and graphed them with 95% confidence intervals using ggplot2.
- Discovered that people who never work from home are significantly less likely to be very satisfied with their job than people who mainly WFH ($p < 0.05$), with all variables held constant.

Identifying Sources of Poor Nutrition for Americans, Amherst, MA July-August 2023
Project Owner

- Analyzed the impact of food sources on food consumption and nutrient intakes for different ages and income levels using 2017-18 data from the U.S. Department of Agriculture.
- Created multiple charts using ggplot2 in R to visualize the three-way associations between food sources, demographics, and food/nutrient density.
- Discovered that the daily average intake of cholesterol for adults rose by 30% when eating at restaurants compared to at home.
- Cleaned and combined datasets using the tidyverse package in R in order to produce visualizations.
- Clearly explained methods and results in a 29-page report using non-technical language.

NBA Salary Prediction, Amherst, MA February-May 2023
Project Owner

- Developed and tested 4 machine learning models using different regression methods to explore which one performs the best at predicting NBA players' salaries using R and Python.
- Found that Random Forest performed the best out of all methods, yielding a low RMSLE of 0.50.
- Pre-processed and wrangled data into a suitable format for the ML models using NumPy and Pandas.
- Tuned hyperparameters for each model using GridSearchCV with 5 folds to control for overfitting.
- Presented my work at my program's research symposium in front of faculty and peers.

Goals in Soccer Regression Models Project, Amherst, MA November-December 2022
Team Member

- Investigated the difference in total goals across Europe's top 5 soccer leagues using team data from the 2021-22 season to understand if the type of league determines the number of goals per season.
- Developed a quasi-Poisson regression model with 9 predictors using R with 3 student colleagues.
- Concluded that there was a difference ($p < 0.05$) in goals between Bundesliga and other leagues.
- Handled the selection of predictors by creating and analyzing a scatter-plot matrix using GGally.
- Coordinated weekly group discussions with team members on Zoom and in person.