BENYIR PACHECO

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EDUCATION

HUNTER COLLEGE New York, NY
Bachelor of Arts Feb 2022

- Major in Mathematics; Minor in Computer Science; Cumulative GPA: 3.44
- Relevant Coursework: Python Programming, Data Structures and Algorithms, Relational Databases & SQL, Numerical Methods, Real Analysis, Partial/Ordinary Differential Equations, Probability Theory, Linear Algebra

Certifications**:** Data Analysis Nanodegree – Udacity

SKILLS

Languages: Python, SQL, English (Native), Spanish (Native)
Data Visualization: Matplotlib, Seaborn
Data Wrangling: Pandas, NumPy, BeautifulSoup
Machine Learning: Scikit-Learn, XGBoost, SciPy, Statsmodels
Web Development: Requests, FastAPI, Streamlit, HTML, CSS
Tools: Jupyter Notebooks, VSCode, Git, Docker, pgAdmin4, AWS ECS

PROJECTS

LEAGUE OF LEGENDS CHURN PREDICTION

Lol_Churn_Prediction

- Deployed end-to-end machine learning classification project onto **AWS ECS Fargate** with Load Balancing using **FastAPI** for the backend server, **Streamlit** for the user interface frontend, and **Docker** using docker compose.
- Extracted data from Riot API, transformed raw data into clean-tidy, and performed analysis on 30,000+ ranked League of Legends players with **Requests**, **Pandas, Matplotlib**, **Scikit-Learn**.
- Achieved **95.7%** accuracy, and **94.7%** f1-score for **XGBoost** classification prediction of League of Legends player churn on balanced dataset.

PROSPER LOANS DATA VIZ

ProsperLoans_Data_Visualization

- Created univariate-multivariate data visualizations using **Python**, **Pandas**, **Matplotlib**, **Seaborn**, and **NumPy** for loan amounts along with several predictor variables from Prosper data to find positive/negative correlations.
- Exploration findings show Prosper prefers to lend at 0.32% interest rate, interest rate vs. APR have pearson correlation of 0.990, and loan amounts vs. APR have correlation of -0.320. Moderate relationship between loan amounts and the rates (interest rate/APR) with several different Credit Grades/Prosper Ratings given to Prosper customers.

WERATEDOGS TWITTER WRANGLING

WeRateDogs_Wrangling

- Leveraged **Python**, **Pandas**, **NumPy**, twitter API (**tweepy**), **Requests**, to gather tweets from twitter account WeRateDogs in order to assess, wrangle the data from dirty to clean/tidy, and then analyze.
- Top breeds predicted by the neural network data were the Golden Retriever, Pembroke, and Labrador Retriever, along with most favorited tweet "Here's a doggo realizing you can stand in a pool. 13/10 enlightened af (vid by Tina Conrad)" with 146369 likes.

E-COMMERCE SITE A/B TEST

Ecommerce_AB_Test

- Assessed whether an e-commerce site needed to implement the new web-page, keep the old web-page, or run the experiment longer to make a decision utilizing **Python**, **Probability**, **Null Hypothesis** testing, and **Logistical Regression**.
- Computed p-value of 0.8874, z-score of -1.213 for right-tailed test with Type I error rate 5%. Regression approach yielded p-value of 0.1899 which implies our results are statistically insignificant. Results along with observed actual differences show that the new and old pages have equal chance of converting users. We fail to reject the null hypothesis. Recommended e-commerce site to keep the old page.