Ethan Vaz Falcao

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EDUCATION

Worcester Polytechnic Institute

Bachelor of Science in Data Science & Mathematical Sciences *May 2024*

Minored in Computer Science

Relevant Coursework: Machine Learning, Algorithms, Object-Oriented Programming, Modeling and Data Analytics, Data Analytics and Statistical Learning, Principles of Real Analysis, Linear Algebra, Combinatorics, Probability Theory, Mathematical Statistics

Awards: Pi Mu Epsilon (U.S. Mathematics Honors Society) Admitted: April 2023

EXPERIENCE

Schneider Electric Boston, MA

Data Science Intern *2023.06 - 2023.09*

- Constructed a predictive machine learning model using PySpark and random forest regression to forecast battery percentages for a UPS Phase 1 sensor, achieving an accuracy of 91%.
- Uncovered insights into UPS battery aging patterns over time, battery chemistry, and energy conservation aspects.

United Solutions Leominster, MA

Business Analytics Intern *2022.06 - 2022.09*

- Designed and implemented Power BI dashboards with dynamic DAX formulas, reducing report generation time by 30% and enhancing data visualization. This improvement facilitated quicker and more informed decision-making based on key trends.
- Implemented daily IQMS Reports using Python, reducing report generation time and providing critical insights into labor productivity trends.

Clora Boston, MA

Business Analytics Intern *2021.06 - 2022.08*

- Analyzed payroll administration of healthcare consultants and ensured accuracy and completeness of their contracts.
- Prepared monthly operational and financial reports that were used to improve budgeting efficiency.

PROJECTS

Full Stack - Spotify Recommendation Algorithm

https://github.com/EthanFalcao/Spotify_Reccommendation_Algorithm *2023.09*

- Developed a playlist recommendation algorithm using extracted song data from the Spotify API. Utilized random forest algorithms and cosine similarity to create personalized playlist recommendations based on user-input playlist.

Yelp Dataset Challenge: Detecting Fake reviews and Business Attributes

https://ethanfalcao.github.io/Yelp_dataset_Challenge.html *2023.05*

- "Predicted business attributes with 86% accuracy, offering insights into business profiles. Implemented fraud detection, flagging 20% of fake reviews for enhanced data integrity.

Finding the Most Optimal NBA team for the 2022-23 Season

https://ethanfalcao.github.io/nba_team.html *2023.09*

- Developed a Linear Optimization Model using Python-Pandas and Google's or-tools Linear-Solver, resulting in a 33% improvement in the overall performance compared to the recommended NBA team for the '22 -'23 season.

LEADERSHIP

Data Science Club Treasure Worcester, MA

WPI *2023.01 - Present*

- Informed the exec board of all the financial activities.
- Implemented a new record-keeping system that improved transparency and accuracy of financial transactions.

IT Volunteer Worcester, MA

Catholic Charities *2022.06 - 2022.09*

- Managed and executed the database migration to Salesforce.
- Maintained and repaired hardware and software.

SKILLS

- **Languages** - Python (Spotipy, PySpark, Pandas, Matplotlib, Seaborn, Sklearn, Tensorflow, Or-tools), R, SQL, Java, DAX, MATLAB
- **Analysis Techniques** - Logistic Regressions, Decision Trees, Random Forests, Cosine Similarity
- **Tools** - VSCode, Databricks, Power BI, Kaggle, Jupyter, PyCharm, RStudio, Azure, Salesforce, Excel, Git