Ethan Vaz Falcao

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EDUCATION

Worcester Polytechnic Institute *Worcester, MA*
Bachelor of Science in Data Science & Mathematical Sciences
Minor in Computer Science *Expected: May 2024*

Relevant Coursework: Machine Learning, Algorithms, Object Oriented, 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*

PROFESSIONAL EXPERIENCE

Schneider Electric *Boston, MA*
Data Science Intern *June 2023 - September 2023*

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

United Solutions *Leominster, MA*
Business Analytics Intern *June 2022 - September 2022*

- Developed A Power BI dashboards with dynamic DAX formulas that reduced report generation time and improved data visualization, enabling 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 *June 2021- September 2022*

- 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

Developed a playlist recommendation algorithm using extracted song data obtained from the Spotify API. Utilized both 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

Predicted business attributes and identified fake reviews using machine learning techniques applied to the Yelp dataset .

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

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

Created a Linear Optimization Model, using Python-Pandas and Google's or-tools Linear-Solver, to output the most optimal NBA Team for the upcoming '22 -'23 NBA Season

LEADERSHIP EXPERIENCE

Data Science Club Treasure *Worcester, MA*
WPI *January 2023 - 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 *June 2022 - September 2022*

- 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, A/B Testing, Cosine Similarity
- **Tools:** VS Code, Databricks, Power BI, Kaggle, Jupyter, PyCharm, RStudio, Azure, Salesforce, Excel, Git