

Ethan Vaz Falcao

Greater Boston

508-808-3510

Ethan.falcao@gmail.com

ethanfalcao.github.io/

linkedin.com/in/ethan-falcao/

EXPERIENCE

Graph Mining (Senior Capstone)

Worcester, MA

Data Analyst

[Github](#) | 09/2023 - 05/2024

- Developed an algorithm to label the status of 1,000+ GitHub repositories, saving significant hours in categorization.
- Analyzed GitHub repo commit trends showing inactivity shifts; developed a Power BI dashboard for insights.
- Identified and analyzed 35 "resurrected" repositories, uncovering key revival trends.

Schneider Electric

Boston, MA

Data Science Intern

06/2023 - 09/2023

- Constructed a predictive model with Python (PySpark) and random forest regression for quantitative analysis.
- Modeled an impressive 91% accuracy in accurately forecasting UPS Phase 1 sensor battery percentages.
- Analyzed battery aging and chemistry data to uncover insights into energy conservation strategies and improvements.

United Solutions

Leominster, MA

Data Analyst Intern

06/2022 - 09/2022

- Developed Power BI dashboards to reduce report generation time by 30%, enhancing data-driven decision-making.
- Analyzed financial data to identify key metrics, aiding a 9.4% increase in year-over-year gross revenue.
- Automated daily labor productivity reports in Excel, cutting time and offering insights into labor productivity.

Clora

Boston, MA

Business Analytics Intern

06/2021 - 08/2022

- Analyzed payroll data for 100+ healthcare consultants, ensuring 100% accuracy and contract compliance.
- Developed monthly financial reports, identifying cost-saving opportunities, leading to a 5% budget reduction.

PROJECTS

DOW-30 Portfolio Optimization and Risk Analysis | yfinance, ARIMA, XGBoost, LSTM

[Github](#) | 05/2024

- Worked with WPI's Investment Club to analyze historical data of the Dow-30 to enhance model inputs.
- Co-developed ML models (LSTM, XGBoost) with sub-200 RMSE, improving portfolio decisions by 20%.
- Implemented real-time data and monitoring, optimizing asset allocation and reducing errors by 15%.

Sentiment Analysis in Financial Markets | ApifyClient, yfinance, BERT, Scikit-learn

[Github](#) | 04/2024

- Conducted sentiment analysis on 10,000+ CNBC articles, achieving 85% accuracy in predicting stock trends.
- Analyzed sentiment scores and stock movements to derive actionable market insights, utilizing NLP techniques.

Spotify Playlist Recommendation Algorithm | Spotipy API, Random Forest, LightGBM, Pipelines

[Github](#) | 11/2023

- Analyzed Spotify data to create a recommendation algorithm with RF and LGBM, achieving 90% accuracy.
- Conducted data preprocessing, feature engineering, and evaluation to improve quality of playlist recommendations.

LEADERSHIP

WPI Investment Association Project Manager

Worcester, MA

Worcester Polytechnic Institute

04/2024 - Present

- Managed and coordinated summer project timeline, ensuring seamless team collaboration for successful execution.
- Facilitated the selection of appropriate optimization models for maximum portfolio efficiency during the project.

Data Science Club Treasurer

Worcester, MA

Worcester Polytechnic Institute

01/2023 - 01/2024

- Managed the club's annual budget, directly contributing to a 100% increase in club attendance.
- Conducted collaborative workshops with industry partners, to help students improve resumes and network

IT Volunteer

Worcester, MA

Catholic Charities

06/2022 - 09/2022

- Managed and co-directed the database migration to Salesforce, ensuring data integrity.
- Systematically maintained and performed critical repairs on various computer hardware and software.

SKILLS

- **Languages** - Python (PySpark, Pandas, Seaborn, Sklearn, Pytorch, Cuda, Or-tools), SQL, R
- **Tools/Techniques** - VSCode, Databricks, Jupyter, Azure, Excel, Git, Hugging Face, Tableau, Deep Learning
- **Interests** - Basketball, Badminton, Weightlifting, Running, Photography, Video editing, Cryptocurrency

EDUCATION

Worcester Polytechnic Institute

B.S. Data Science, B.S. Mathematical Sciences

08/2024 - 05/2024

Relevant Coursework: Machine Learning, Algorithms, Principles of Real Analysis, Linear Algebra, Combinatorics, Probability Theory, Mathematical Statistics, Artificial Intelligence, Big Data, Business Intelligence, DataBases

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

Admitted: 04/2023