Benjamin R. Forleo

Portfolio available at github.com/benforleo

Data Engineer & Analytics Professional
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Analytical Programming | Data-Driven Strategy | Problem Solving & Communication

Resourceful data analytics professional with formal graduate training in data science and a proven ability to generate novel solutions to problems. Experience mining raw data for actionable insights and delivering data-driven strategic advice in a client facing role.

Key areas of Expertise

Statistical Programming, Data Engineering, Data Visualization & Storytelling, Data Mining & Machine Learning, Business Intelligence, Business Strategy

- ✓ **Programing & Scripting**: Python, R (including R Shiny), SQL (T-SQL), Git
- ✓ **Machine Learning & Statistics:** Classification, Regression, Natural Language Processing, Clustering, Dimension Reduction
- ✓ **Data Engineering:** Microsoft Analysis Services**,** SQL Server, Apache Airflow
- ✓ **Software:** Power BI (including DAX and Power Query), Tableau, Microsoft Excel, PowerPoint, Word

Professional Experience

Senior Data Engineer & Data Analyst, Liberty Mutual, Portsmouth, NH — July 2019 – Current

- As a member of an Agile squad, worked collaboratively to mine Liberty Mutual's IT infrastructure data for meaningful and actionable insights.
- Supported and contributed to critical Power BI reports used to drive decisions by senior leadership in Liberty Mutual's data center.
- Helped develop and maintain an ETL pipeline required to service analytical reports, consisting of over 21,000 lines of SQL code and 174 batch jobs designed to run in sequence.

Analytics Consultant (UNH Practicum Project), Liberty Mutual, Portsmouth, NH — Dec. 2018 – May 2019

- With a team of University of New Hampshire graduate students, partnered with Liberty Mutual's IT division to clean and visualize storage data at the server unit of analysis.
- Using SQL and Python, engaged in extensive data cleaning and munging, connecting disparate data sources to answer business questions.
- Constructed an interactive dashboard using Power BI to communicate results. Provided management with a sustainable solution to visualizing storage allocation and consumption.

Economist ITR Economics, Manchester, NH — Jan. 2017 – Jan. 2018

- Entrusted with a portfolio of 30 clients within three months of hire date representing a diverse mix of industries including the construction, manufacturing, and energy sectors.
- Applied ITR Economics' unique methodology in analyzing economic trends.
- Wrote reports that analyzed economic trends and clients' position in the market. Provided actionable economic intelligence and strategic advice for clients.
- Presented reports via webinar and onsite visits; retaining multiple at-risk accounts by evaluating clients' needs and adjusting program offerings accordingly.

Education:

University of New Hampshire, Durham, NH, USA

- **Master of Science in Analytics;** 2019
- **Bachelor of Science in Business Administration;** 2016
  Summa cum laude; Option in International Business and Economics

Data Science Projects: *See more at github.com/benforleo*

Information Warfare: Russia's use of Twitter during the 2016 US Presidential Election

- Analyzed labeled tweets from accounts identified by Twitter and researchers at Clemson University as being part of a Russian campaign to influence the 2016 US Presidential Election. Labels include Right Troll, Left Troll, News Feed, and Fearmonger.
- Used the doc2vec algorithm to generate a numeric representation of Twitter text for each account.
- Employed K-Means and Gaussian Mixture Models to cluster accounts into groups. Findings indicate that clusters generally form in line with ideology and content labels.
- Trained and tuned a variety of multi-class classification models achieving a test accuracy of 98% and average f1 score of 98%.
- The proposed procedures may help researchers label accounts in other state sponsored social media influence operations.

Tools: Python: (Pandas, spaCy, genism, Scikit-Learn, Imblearn, Plotly)

*Techniques***:** doc2vec, K-Means clustering, t-SNE, Gaussian Mixture Models, SMOTE, Logistic Regression, SVM, Random Forrest, XGboost

Campaign Finance: Individual Campaign Contributions to Presidential Candidates during the 2016 Election Cycle

- Analyzed campaign finance data published by the Federal Election Commission.
- Using GGplot, Plotly, and Shiny, created an interactive dashboard to compare campaign contributions.
- Insights include the geographic source of contributions for each candidate, as well as contributions per candidate over time.

Tools: R (GGplot, Shiny, Dplyr, Plotly)

Additional Experience

Carpenter/Laborer, Construction Industry, MA, VT, NH 2005 - 2015

As a successful carpenter and laborer, used ingenuity to solve problems daily while working with a team in meeting strict deadlines. Demonstrated consistent ability to think outside of the box to provide cost effective solutions while maintaining rigorous quality standards.