BRANDON O'BRIANT

8620 Haviland Ave SW, Lakewood, WA 98498

253-389-8507 | obrianbl@protonmail.com | linkedin.com/in/brandonobriant/ | obrianbl.github.io

PROFILE

Data scientist with a strong machine learning and predictive analytics background, 3+ years of experience in **SQL, R, Python**, C++, and logical data modeling, and solid skills in programming and strategic planning. Passionate about statistics, mathematics, risk estimation, computational science and modeling, and explaining data science to non-technical business audiences. He has developed solid skills to provide reports, analyze data, manage records, and coordinate with a variety of teams. Committed to the highest quality and research accuracy, he builds productive relationships with all stakeholders and organizes timelines and methodologies to achieve common goals.

DATA SCIENCE PROJECTS

Spring 2017-Present
- Pulled securities data from Yahoo Finance for Apple Inc. (AAPL), Microsoft (MSFT), Intel (INTL), and Tesla Inc. (TSLA). Performed 1000 different weight combinations to produce a Markowitz optimized portfolio and visualized the Markowitz Efficient Frontier. Python, pandas, numpy, matplotlib.

- Compared classification methods, logistic regression, Naive Bayes, and support vector machine using a cross-validation design. The average AUROC was used to assess the performance of the models ability to predict customers that will participate in term deposits. Python, SciKit-Learn, pandas, numpy, matplotlib.

- Created a 10-KFold cross-validation design, using root mean-squared error (RMSE), to compare regression methods (linear, ridge, lasso, and elastic net) for assessing the market value of residential real estate. Python, SciKit-Learn, pandas, numpy, matplotlib, os, and seaborn.

- Conducted exploratory data analysis of software preferences for course offerings in the new data science program design at Northwestern University. Python courses were most preferred at 31.11%. Python, pandas, numpy, matplotlib, and seaborn.

- Developed and tested neural networks, within a benchmark experiment, for classification of handwritten characters from the MNIST data set, consisting of 70,000 observations. Python, SciKit-Learn.

- Used PCA to generate principal components representing 95% of the variability in 784 explanatory variables. Random forest classifiers were constructed with and without principal components to classify handwritten digits. Performance of the models were assessed using an F1-score. Python, SciKit-Learn.

- PostgreSQL and Python were used generate sales reports based on previous month's sales transactions.

- To assist business analyst working on a model for customer lifetime value analysis, PostgreSQL and Python were used to extract the relevant data and presented to the analyst with comma-delimited .txt file for use.

- Used R to perform EDA methods to identify characteristic differences between abalone classes. Performed variance and linear regression analysis to construct and evaluate binary decision rules for practical harvesting level of abalones.

Personal Web Portfolio
- HTML, CSS, and JavaScript were used to build personal web portfolio that is hosted through GitHub-Git Pages.

Pacific Lutheran University, Senior Capstone 2016

- Fuzzy Set Theory: Application in Forecasting: Researched Fuzzy Logic/Set theory and formulated a detailed comparative analysis to 'crisp' logic.

TECHNICAL SKILLS

Machine Learning: classification, regression, clustering, feature engineering
Statistical Methods: time series, regression models, generalized linear models, hypothesis testing and confidence intervals, principal component analysis and dimensionality reduction, stochastic differential equations (SDEs),
Software and Programming Languages: Python (scikit-learn, numpy, scipy, pandas, gurobi), R, SQL, HTML, JavaScript, C++, CUDA, Linux, LaTeX
Selected Coursework: Practical Machine Learning (Python), Regression and Multivariate Analysis (Python), Statistical Analysis (R), Database System and Data Preparation (Python, PostgreSQL), Computational Science Modeling and Simulation (Python), Mathematics of Risk, Decision Analytics (Python, Gurobi, ASPE), Probability/Statistical Theory, Business Finance, Linear Algebra (Theory/Applied), Data and Error Analysis, Databases and Web Development (Java, HTML, CSS, MySQL), Differential Equations, Project Management

EDUCATION

Northwestern University, Evanston, IL, 2018   Spring 2017 - Summer 2018
Master of Science in Data Science, GPA 3.74

Pacific Lutheran University   Fall 2014 - Fall 2016
Bachelor of Science in Mathematics, 3.09

Pierce College Ft. Steilacoom   Fall 2012 - Summer 2014
Associates of Arts (Mathematics Focus)

ACADEMIC HONORS AND AWARDS

Natural Science Outstanding Student for Mathematics, Pierce College Ft. Steilacoom, Lakewood, WA, 2013-2014