Ben Nicholl

Bnicholl66@gmail.com (484 753 3340) Philadelphia, PA 19127

OBJECTIVE

A machine learning/data scientist with extensive full stack experience. I utilize mathematical and statistical equations in order to engineer algorithms that increase the efficiency and productivity for various applications.
https://github.com/bnicholl

COMPLETED BACHELORS DEGREE

La Salle University Philadelphia, PA January 2012 - December 2014
Major: ISBT (Integrated Science, Business, and Technology) Major GPA: 3.51

*ISBT- A major which involves an in depth understanding of statistics and data analyses, and how the use of evolving computer science and technology can create and develop innovative algorithms that have the potential to pioneer the future of technology.

TECHNICAL EXPERIENCE

Machine Learning Accomplishments:
Maximize the probability in predicting when one of Halliburtons mechanical devices are going to fail by analyzing sensor data with algorithms such as neural networks via PyTorch and gradient boosters via XGBoost. Engineered an Image Recognition Neural Network with Tensorflow that can be trained to classify images by feeding the neural network an image database. Reengineer categorial labels via scikit-learn using unsupervised clustering in order to categorize how efficient a mechanical device was operating given a set of features.

Data Engineering and App Development:
Completely reformat SQL schemas for fortune 500 companies in order to engineer pipelines for the data that flows into a dashboard for visual analyses. Engineer cloud based micro sites with AWS S3 for storage containers and AWS RDS for relational database storage. The microsite's would serve various purposes, such as calling AWS lambda functions to pull data from various SQL databases, then compute some probabilistic function. Completely automate data reporting processes, saving employees, and the company as a whole hours upon hours of manual data extraction. Build candlestick pattern dashboards for financial trading in Python/Plotly and host them on AWS.

Mathematical coding:
Use topological data analyses to show how clusters are distributed in N dimensional space. Utilize concepts in statistics and multivariable calculus in order to calculate the rate of change in equities for day trading. Build functions that calculate moving averages for day trading, then plot on a Plotly dashboard when those moving averages cross, thus signifying a potential purchase. Build a naive bayesian probabilistic classifier via python/numpy from raw unstructured text data in order to calculate a probability of a tweet being associated with terroristic behavior.

WORK EXPERIENCE

MNG Health; Title: Data Scientist Employment: Full Time
(February 2019 - Present)
- Utilize feature selection and feature engineering to build ML model's that are able to output a probability of a health care prescriber prescribing a specific drug.
- Engineer an app for email marketing campaigns that takes in a list of health care provider NPI numbers, and outputs a probability pertaining to those doctors in that list opening an email.
- Save MNG health money by mining though MNG healths's SQL databases, figuring out which email vendors were giving us email addresses that had the highest probability of an email being sent without bouncing, and then get rid of vendors with low probabilities.

Halliburton; Title: Machine Learning Engineer Employment: Contract(7 Months)
(June 2018 - January 2019)
- Engineer a feed forward neural network in order to maximize the probability in predicting when an oil well becomes unhealthy
- Conduct research pertaining to optimization algorithms, hidden layers, and other parameters in order to maximize the probability of correct prediction within the neural network
- Use clustering algorithms on features in order to reengineer class labels pertaining to the specific reasons on why a mechanical device was unhealthy
- Engineer and train a multi-class gradient boosted decision tree using clustered labels in order to predict what individual component of the mechanical device was likely to fail
- Completely reengineer their Postgres database in order to create a schema that had training examples that could be ran through ML algorithms

Community Compounding Pharmacy; Title: Data Scientist Employment: Full Time
(March 2014 - June 2018)
- Utilize conversion rate optimization in order calculate probabilities associated with visitors navigating through a website and ending on a desirable task, such as buying a product
- Engineer a RBF kernel support vector machine for prediction based analytics
- Create machine learning algorithms, such as linear and non linear regressions via Python in order to find key variables that pertain to enhancing the efficiency of the company
- Create statistical models such as histograms to show probability distributions, and scatterplots to show separability of differently labeled data

USMC; Title: Rifleman(infantry)
(November 2007 - November 2011)
- Take charge of a team of Marines and ensure the safety of the Marines under me
- Lead combat patrols which may last up to 24 hours
- Maintain and account for over one hundred thousand dollars of equipment