STEPHEN BLOUNT, P.E.

DATA SCIENTIST

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stephenblount

Skills

LANGUAGES/TOOLS

SQL

Python (Pandas, Numpy, Scikit-Learn, NLTK, PySpark, BeautifulSoup, Selenium, Keras, TensorFlow, OpenCV)

Excel

MACHINE LEARNING

Linear Regression

Classification

Natural Language Processing

Clustering

Neural Networks

Computer Vision

DEPLOYMENT

Streamlit

Heroku

VISUALIZATION

Matplotlib

Seaborn

Tableau

Excel/PowerPoint

DATA MANAGEMENT

MySQL

MongoDB

Education

University of Nevada, Reno

B.S. Civil Engineering (GPA 3.8) 2016

M.S. Structural & Earthquake Engineering (GPA 3.9) 2018

Structural Project Engineer turned Data Scientist.

Achieved top honors obtaining Masters in Structural Engineering and professional engineering registration (P.E.) due to mathematics aptitude and understanding of complex systems. Fascinated with advanced computer programming and problem solving discovered a passion for data science through my desire to speed up engineering workflow through computer automation. Completed 14-week data science engineering bootcamp with a focus on project-oriented problem solving, machine learning, data visualization.

Experience

Metis

Data Scientist — September 2021 - Current

- Completed a 14-week immersive data science bootcamp with a focus on Python programming, data engineering, and machine learning.
- Produced multiple end-to-end data science projects using machine learning algorithms and statistical modeling for a variety of market sectors.
- Effectively documented and communicated findings and results for said projects.

Project Highlights:

- **Drowsiness Detection:** Built a real-time eye state image classification system using a convolutional neural network (CNN) and computer vision. OpenCV was used to detect the face and eyes of a person in real-time from a web camera. The area of the eyes were isolated and sent to the CNN model for classification. If both eyes were closed for an extended period of time a police siren was played.
- Tools: Keras, TensorFlow, OpenCV, Python, Matplotlib, ImageNet, VGG-16
- **House Price Prediction:** Constructed a complete pipeline for data collection and deployment. House data was scraped from Realtor.com and stored in an SQL database. A pipeline was constructed to clean and train a linear regression model. A Streamlit app was constructed that will take real-time user input for house features (such as zip code, number of beds, baths, lot size, etc.) and return a predicted house price. The application was deployed on Heroku and can be found here.
- Tools: PySpark, SQLite, Scikit-Learn, Streamlit, Heroku, BeautifulSoup, Python
- **Putting a Price on Customer Churn:** Created a classification model that would assign soft probabilities to current customers based on their susceptibility to churn (terminate their relationship with a company). With the use of a cost function and soft probabilities, a probability threshold was found that will optimize the amount of churn a company is willing to accept to maximize savings. A more in depth blog post can be found here.
- Tools: Scikit-Learn, Pandas, Seaborn, Matplotlib, Numpy, Python
- **Garage Gym Reviews (GGR) Recommendation System:** Every blog from the GGR website was scraped and processed using the BeautifulSoup and NLTK packages. A recommendation system was constructed using topic modeling to suggest the top related blogs to the current blog being read. The corpus was broken into 10 distinct topics using non-negative matrix factorization (NMF) to assist in prioritizing further reading for the user. Topics included: barbells, weightlifting shoes, cardio machines, etc.
- Tools: NLTK, Regex, Scikit-Learn, Pandas, Seaborn, Matplotlib, Numpy, Python

WSP USA

Seattle, WA

Project Engineer — July 2018 - August 2021

- Responsible for constructing and analyzing complex structural analysis models using various structural programs and Excel.
- Constructed 3D spatial models of buildings and produced comprehensive drawing sets for contractors to use as plans for construction of buildings.
- Created complete calculation packages to document the entire process design process for governmental review.

Univserity Of Auckland

Auckland, NZ

Researcher — January 2017 - May 2018

- Responsible for constructing four half-scale concrete walls made with innovative materials to test the structures for earthquake susceptibility and repairability.
- Processed and analyzed large datasets from 56 sensors on each wall using MATLAB.
- Publication: “Evaluation of Design Modifications for Enhanced Repairability of Reinforced Concrete Walls,” Engineering Structures (2020) Vol. 206