Frank (Tianyu) Zeng

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Education

University of Wisconsin-Madison   Madison, WI
Bachelor of Science   Dec 2019
Majors: Computer Sciences, Statistics
GPA: 3.43/4.00
Relevant Courses: Data Structures, Algorithms, Regression Analysis, Data Science in R, Machine Learning (ongoing)

Experience

HelpCare Connect - Werner Lab   Madison, WI
Software Developer - Backend   Aug 2018 - Present
- Developing and maintaining "Password Recovery" features in PHP and collaborated with other developers to improve functionality of the existing website.
- Creating an API to wrap the machine learning model in Flask, enabling users to request predictions.
- Maintaining and improving the existing code in the website.

CUNA Mutual Group   Madison, WI
Data Science and Analytics Intern   Jun 2018 - Aug 2018
- Implemented a Gradient Boosting Model to predict the severity of automobile insurance claims and reduced MSE by 15% and constructed 5x2 cross validation to evaluate the performance of different models.
- Developed custom dashboards for visualizing results from LDA topic models and sentiment analysis in R shiny. Dashboards was adopted by peer stakeholders to drive potential products and business impact.
- Researched and formulated approaches based on the sentiment analysis to provide data-driven solutions for over 600 credit unions from a customer perspective.
- Performed EDA and feature engineering on large data sets in Spark/Hive to facilitate the development of statistical models as well as improving the model performance and flexibility.

USDA Forest Laboratory   Madison, WI
Undergraduate Research Assistant   Apr 2017 - Aug 2017
- Implemented bilinear interpolation algorithm in Julia to enhance the image resolution for ML algorithms (neural nets) to recognize same wood images taken by different cameras.
- Automated data-entry of over 10,000 wood specimens features in Python and decreased the documentation workload from one week to two days.

Skills

- **Programming Languages:** Python, R, SQL, Java
- **Machine Learning:** Regression, SVM, KNN, Decision Trees, Random Forest, Ensemble Learning etc.
- **Statistical Analysis:** A/B Testing, Exploratory Data Analysis
- **Other Skills:** Linux, Git/Github

Projects

NYC Taxi Fare Prediction
- Trained a LightGBM model to predict taxi fare amounts given locations, time, passengers, etc. Ranked top 22%.

Trump vs Stock
- Analyzed the sentiment of Trump's tweets and discovered the potential patterns that may affect the volatility of chosen stocks.
- Visualized and presented the final result on R shiny so that users were able to interact with it.

CEO Pay Matters (ongoing)
- Scraped salaries of CEOs and workers from various websites and compiled into a clean dataset.
- Currently working on Principle Component Analysis and Correspondence Analysis on the dataset to study pay gap between executives and lower-level workers.