

CAROLINE FRENSKO

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Education

Springboard
Data Science Career Track
Program 2018

DePaul University
Bachelor of Science Biology 2009
Pre-Medicine Concentration. Spanish
Minor.

Skills

MACHINE LEARNING:

Classification
Linear Regression
Logistic Regression
Clustering
Hypothesis Testing

STATISTICAL METHODS:

Regression Models
Hypothesis Testing and Confidence
Intervals
Principal Component Analysis and
Dimensionality Reduction

SOFTWARE & PROGRAMMING LANGUAGES:

Python (Scikit-learn, Numpy, Scipy,
Pandas, Seaborn, Matplotlib)
SQL (Mode Analytics)
Microsoft Excel
HTML/CSS

Data Science Projects

Springboard Capstone Projects

Capstone Project 1: Airbnb Price Point

- The 159,181 rows of data for the city of Chicago was pulled from Airbnb's website by Tom Slee (<http://tomslee.net/airbnb-data-collection-get-the-data>) to calculate a fair approximate value for a home to assist renters and hosts using Airbnb.
- This project was done in Python (Scikit-learn, Numpy, Scipy, Pandas, Seaborn, Matplotlib) using machine learning models (linear regression, decision tree, random forest, k-nearest neighbors, multi-layer perceptron, gradient boosting, lasso regression, ridge regression, elastic net) with feature importance analysis and hyper parameter tuning applied to the best model.
- Random Forest was the best tuned machine learning model with 72% of the variability in home prices explained. With a few improvements, the ideal supervised learning model would make the task of pricing an apartment rental or finding a reasonably priced home seamless.
- <https://github.com/CFrensko/Capstone-Project-1>

Capstone Project 2: Lending Club

- The data used was from Lending Club's loans in 2015-2016 totaling 421,097 rows and 145 columns (<https://www.lendingclub.com/info/download-data.action>) to explore the features of approved loans to predict the possibility of default.
- This project was done in Python (Scikit-learn, Numpy, Scipy, Pandas, Seaborn, Matplotlib), using machine learning models (logistic regression, random forest) with hyper-parameter tuning using L1 and L2 regularization parameters, random over-sampling, synthetic minority oversampling technique and random under-sampling.
- The best binary classification method for this imbalanced data set comparing the average F1 score was random forest with the random oversampling model (0.45 for defaulted, 0.74 for paid loans). This data should be carefully reviewed by qualified staff before making final decisions on loans flagged as defaulted loans. Otherwise the risk for false negative errors will be higher and could cause the company to lose out on revenue by not approving loans that will be paid out.
- <https://github.com/CFrensko/Capstone-2>

Springboard Course Projects

- Developed 9 mini-projects covering various fundamental data science projects including machine learning with classification, naive bayes, logistic regression, linear regression, frequentist bootstrapping and exploratory data analysis.
- <https://github.com/CFrensko>

Experience

Cetera Financial Group

Trader - Equity, Options & Mutual Funds

- Execute moderately complex purchases and sales of investment products supporting nearly 8,000 registered representatives and advisors.
- Proactively research and resolve trading issues.

St. Cloud, MN
Sept. 2018 to Current

Sabbatical

Traveler

- Backpacked through Taiwan, China, Hong Kong, Laos, Vietnam, Cambodia, Myanmar, Thailand, Malaysia, Indonesia, New Zealand and Australia.
- Obtained Open Water Diver, Advanced Adventurer Diver and Freediving level 1 certifications (SSI).
- Participated in conservation diving receiving certifications in Coral Reef Ecology and Monitoring, Coral Taxonomy and Identification, and Artificial Reef Theory and Techniques.

Asia/Australasia
Oct. 2016 to Oct. 2017

Cheevers & Company, Inc.

Institutional Equity Broker, Institutional Execution

- Consistently performed in the top two brokers for highest volume of trade under management, processing millions of shares daily.
- Executed high volume, complex, multi-party equity trades tied to derivative strategies, or stock option package trades for the world's leading banks and trading firms.
- Monitored executions, confirmed trade allocations, reconciled trade discrepancies and facilitated clearing between banks, prime brokers, inter-dealer brokers, market makers, and independent traders on the New York Stock Exchange and the Chicago Board Options Exchange.
- Initiated and attended the majority of the firm's client meetings and outings forging strong partnerships with clients in New York City, Jersey City, Chicago and San Francisco.
- Advocated on the client's behalf while collaborating with consultants and management to maintain compliance with SEC & FINRA reporting requirements.

Chicago, IL
June 2010 to Oct. 2016

Clerk, Execution Support

- Attained Series 7 license and passed the Institutional Broker Exam to become a registered representative in the shortest period of time of any broker on the desk.
- Established the first comprehensive training program for interns/new hires to increase their practical skill-set and proficiency, accepting 3-4 interns annually.
- Mentored 30 percent of coworkers at adopting new electronic trading procedures and programs.

Chicago, IL
Nov. 2009 to June 2010

DePaul University

Research Assistant, Dept. of Biological Sciences

- Researched anti-predatory behavior and adaptation in parasitic relationships.
- Presented a detailed analysis of field collections and dissections at the annual science showcase.

Chicago, IL
Sept. 2007 to June 2009

Licenses

Series 7 (General Securities Representative Exam), Series 55 (Equity Trader Exam), and Series 63 (Uniform Securities Agent State Law Exam).

Volunteering

The Chicago Community Trust - Young Leaders Fund · Communication and Events Chair
Organized events, designed emails and taught the grant writing process for grassroots nonprofits.

2012 to 2016

Cheevers' Charity Committee · Co-Chair
Organized fundraisers, elected donations and encouraged firm participation in charitable giving.

2011 to 2017