Peter Jourgensen

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Education

University of California, Los Angeles, Los Angeles, CA. *expected 12/19*
Masters of Science in *Computer Science* with a focus on *Machine Learning*
- GPA: **3.7/4.0**

Northwestern University, Evanston, IL. *2015*
Bachelors of Science in *Applied Mathematics* | Minor in *Economics* | Certificate in *Financial Economics*
- Major GPA: **3.8/4.0**, *Cum Laude*

Skills

- **Programming:** Python, R, MATLAB, SQL
- **DevOps:** Object-Oriented Programming, Cloud Computing, Git, Docker, Flask, Heroku
- **ML/AI:** Classification, Regression, Cross-validation, SKLearn, Ensembling, CNNs, LSTMs

Data Science Project Portfolio

Route Scout *2019*
An NLP-based web application to help climbers find their perfect route; [App](App); Blog
- Developed and deployed a novel web app that recommends climbing routes based on user input description; used Dash and Plotly for development and visualization and Heroku for deployment
- Constructed a Postgres database of all Southern California bouldering routes via requests to Mountain Project's API and some additional web scraping
- Created NLP pipeline to standardize all route descriptions before vectorizing with TF-IDF and ranking by largest cosine similarity to input description
- Containerized application with Docker for ease in reproducibility

National Health and Nutritional Examination Survey (NHANES) Analysis *2019*
Assessing Patient Cancer Risk for Advance Warning and Preventative Care; Blog
- Developed object-oriented architecture with python and SKLearn to seamlessly pipeline feature selection and model tuning for ease in building, running, and testing experiments
- Performed missing value imputation, outlier handling, and categorical encodings via proprietary preprocessing functions
- Optimized GBDT model and achieved 90.4% accuracy and 24.2% recall on held out test set

Research Experience

Heatwave Prediction *2019*
Longlead Prediction of Extreme Heat Events for Agricultural Planning; Advisor: Karen McKinnon; Blog
- Developed object-oriented pipeline to detrend and deseasonalize the data; leveraged numpy and xarray libraries for vectorized computing
- Developed object-oriented pipeline for neural network construction with keras and tensorflow to easily facilitate parameter tuning and results storage
- Employed ftplib, netCDF4, and xarray libraries to facilitate download and memory management of 34 years of Sea Surface Temperature data (720x1440 data grid per day)
- Leveraged Google Cloud Engine for model training

Professional Experience

Valkyrie Trading Llc, Chicago, IL.
Trader *2017-2018*
Junior Trader *2015-2017*
- Generated ~1% increase in market share of 10-year note options by analyzing time series data and developing company's first risk model to price calendar spread option strategies
- Reduced option trader distraction by developing tool to model futures spread risk via moving correlations
- Achieved net profits of >$1,000,000 while leading a team of 3 in the collaborative execution and risk management of fixed income future options