

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, Git
- **Mathematics:** Statistical tests/distributions/aggregators, Bayesian Analysis, Gradient Descent
- **ML/AI:** Filtering, Cross-validation, Grid-search, SKLearn pipeline, Ensemble Methods, CNNs, LSTMs

Research Experience

Heatwave Prediction

2019-present

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 GPU access via the Google Cloud Engine for model training; final results still TBD

Project Portfolio

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 various processes
- Performed missing value imputation, outlier handling, and categorical encodings via proprietary preprocessing functions
- Grid-searched across Random-Forests and Gradient-Boosted Decision Trees to tune optimal model
- Achieved 90.4% accuracy and 24.2% recall with GBDT model on held out test set

Distributed CDNs

2019

Reducing CDN traffic and improving Netflix recommendations with P2P communities; [Blog](#)

- Joined Netflix Prize data (100+ million consumer reviews) with themoviedb data (details of 350,000+ movies) with pandas to gain deeper insight into specifics of consumer interests
- Collaborated with a partner to develop custom K-means class with python
- Clustered movies by genre listings and consumers by genre preferences before mapping them to each other to establish P2P communities

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
- 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
- Trained 3 Junior Traders; empowered each to independently manage their own portfolios