Lawrence Lin

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Education

University of San Francisco — San Francisco, CA
M.S. Data Science — *July 2021 - August 2022 (Expected)*

University of California, Santa Barbara — Santa Barbara, CA
B.S. Statistics — *August 2017 - June 2021*

Courses: Advanced Machine Learning, Bayesian Statistics, Distributed Computing, Time Series, Stochastic Processes

Experience

Data Science Intern — November 2021 - Present
Walmart Labs — *Sunnyvale, CA*

- Analyzed customers' seasonal purchase behavior for festivals using Apache Spark and Seaborn
- Worked on feature engineering and data cleaning using Apache Hadoop
- Developed a Next-item Sequential Recommendation Neural Network Model in TensorFlow
- Deployed model on Google Dataproc
- Created validation metrics to assess seasonal inference of model

Research Assistant — January 2021 - June 2021
Sansum Diabetes Research Institute — *Santa Barbara, CA*

- Geographically visualized diabetes severity by zip code using Folium
- Modeled HbA1c with regression models achieving an R^2 of 0.77
- Authored and presented weekly written reports of insights to SDRI researchers

Gretler Fellow — September 2019 - June 2020
University of California, Santa Barbara — *Santa Barbara, CA*

- Web-scraped thousands of pages of state legislative data using BeautifulSoup
- Cleaned, processed, and validated data using Pandas

Projects

Predict Implicit Ratings (Kaggle) | *Pytorch, FastAi, NumPy, Pandas*

- Developed Matrix Factorization model in PyTorch
- Implemented and trained Tabular Neural Network model in FastAi using cyclical learning rate
- Created various negative sampling algorithms for models
- Achieved 1^{st} place on Kaggle leaderboard with loss of 0.40320

Feature Importance | *Scikit-Learn, NumPy, Pandas*

- Implemented Spearman correlation, PCA, permutation importance, and drop-column importance from scratch
- Visualized the cross-validated Gradient-Boosted Tree's R^2 trained on k most important features
- Implemented automatic forward feature selection algorithm using permuation importance
- Calculated variance and empirical p-value of feature importances using bootstrap samples

Technical Skills

Languages: Python, R, C++, SQL (Postgres), NoSQL (Mongo) HTML/CSS, Bash
Frameworks: Hadoop Ecosystem (HDFS, YARN, Spark, SparkMLib, HiveQL) TensorFlow, PyTorch, FastAI, Scikit-Learn, Statsmodels, Scipy, Numpy, Pandas, Matplotlib, Seaborn, Flask, BeautifulSoup, Selenium
Developer Tools: Git, Docker, Google Cloud Platform, Amazon Web Services, MongoDB