Wyatt Walsh

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Education

BS | Industrial Engineering and Operations Research — **UC Berkeley | December 2020**

High School Diploma — **The Hotchkiss School | May 2014**

Experience

Demand Forecasting

Gap Inc. | January 2020 - May 2020

- Impacted numerous organizational divisions by using data science and analytics to improve demand forecasts by 5%-25%
- Instigated organizational change by formally presenting feasible action items for improving forecasts to company leaders
- Quickly processed 5+ years of time series data using relational databases MYSQL and distributed computing APACHESPARK

Course Staff — Data 8: Foundations of Data Science

UC Berkeley | January 2019 - December 2019

- Facilitated student development as a course staff tutor for the largest in-person data science course of 1600+ students
- Invigorated student interests with 75+ lectures on varying topics in statistics, programming PYTHON, and analytics
- Ensured course operations by hosting office hours, proctoring exams, grading assignments, and working with other staff

Intern

The Bar Method | June 2015 - August 2015

- Maximized future equity and fairness among franchisees by developing a franchise territory designation model
- Developed and extracted useful and necessary data for modeling by digitizing all currently existing franchise territories

Cofounder

Bot Systems | October 2014 - June 2015

- Learned some benefits of failure by bootstrapping a hardware startup from prototype creation through investor pitches
- After 20+ iterations created the first cellular operable drone complete with augmented reality and a 360° capture system

Personal Projects

Fully Automated Data Pipeline Using Free, Cloud-Based Solutions

kaggle.com/wyattowalsh/basketball

- Facilitated other's sports-analytics data projects by creating the most robust, open-source, NBA-related database SQLITE
- Ensured $0 capital overhead requirements by using free cloud computing GITHUB ACTIONS and dataset tools KAGGLE
- Enabled better testing, deployment, and expansion by using containerizing Python scripts as pipeline segments DOCKER

Machine Learning for NBA Game Attendance Prediction

github.com/wyattowalsh/NBA-attendance-prediction

- Optimized NBA stadium stakeholder's decision making by building a Python-based game attendance prediction tool
- Improved machine learning predictive accuracy by assembling a robust dataset from multiple web and API sources
- Refined modeling with 10+ regression experiments resulting in a best error of 5% average stadium capacity SCIKITLEARN R

Regularized Linear Regression Deep Dive

github.com/wyattowalsh/regularized-regression-from-scratch

- Published 3 articles in *Towards Data Science* after a thorough investigation into underlying model optimization mathematics
- Open-sourced all project implementations, including Pathwise Coordinate Descent optimization and cross-validation NUMPY
- Researched efficient methods for solving machine learning problems and made necessary derivations for model estimators

Technical Skills

Programming Languages — Python, SQL, R, Java, Matlab, HTML, CSS, Javascript

Data

Collection	Visualization	Processing	Modeling	Deployment
Web scraping	Matplotlib	Apache Spark	Scikit-Learn	MLflow
APIs (REST)	Seaborn	Pandas	Tensorflow	Amazon Sagemaker
Databases	Plotly	NumPy	Statsmodels	DVC
Apache Avro	Tableau	Apache Hadoop	HuggingFace	Apache Airflow
	Folium	Multiprocessing/ Dask	Sci-Py	Flask
	ggplot2		Fast.ai	

Cloud Technologies — AWS, GCP, GitHub Actions, Travis CI, Kaggle, Google Colab

Workflow — Git, Linux, BASH, Docker, Virtual Environments (Conda), Virtual Machines, Jupyter Notebooks

Optimization Tools — AMPL, IBM CPLEX, Gurobi, PuLP, Metaheuristics

Miscellaneous — 3D Modeling (Autodesk & Solidworks), Microsoft Office Suite, Typesetting (LaTeX & Markdown), Web Development

Certificates

- IBM Data Science Professional Certificate — IBM | 02-2021

Publications

Towards Data Science

- Basics of Linear Regression Modeling and Ordinary Least Squares (OLS)
- Using Ridge Regression to Overcome Drawbacks of Ordinary Least Squares (OLS)
- Implementing Pathwise Coordinate Descent For The Lasso and The Elastic Net In Python Using NumPy