Wyatt Walsh

wyattowalsh@gmail.com (209) 602-2545 California linkedin.com/in/wyattowalsh github.com/wyattowalsh

Education

BS | Industrial Engineering and Operations Research — **UC Berkeley** | December 2021

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

Experience

Senior Software Engineer — Stealth NFT DeFi DAO | March 2022 - July 2022

- Managed UI (front-end) operations end-to-end, including implementation, validation, and deployment.
- Used Jira for agile project management and Notion to ensure maximally synergetic support of junior developers.
- Technologies included: React, NextJS, Redux, Cypress, Jest, StorybookJS, ethers.js, Typescript, SCSS.

Founder, CTO — SandLabs | June 2021 - March 2022

- Built a NextJS web app including landing page, blog, and other content to host the project online
- Successfully secured Web3 grant funding from the Ocean Protocol to conduct a Reddit Web3 Content data scrape.
- Partnered with two Duke University cofounders to further explore entrepreneurship in the Web3 space.
- Tools and skills included: Python, web data scraping, API usage, Solidity, React, Typescript.

Data Science — Gap Inc. | January 2020 - May 2020

- Using data science and analytics, proposed a forecast correction system that improved demand forecasts by 5%-25%.
- Extracted 5+ years of time series forecast data using MySQL and quickly processed using Apache Spark (PySpark).

Course Staff for Data 8: Foundations of Data Science — UC Berkeley | January 2019 - December 2019

- Fostered 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 , and analytics.
- Hosted office hours, proctored exams, graded assignments, crafted lesson plans, and collaborated with other staff.

Personal Projects

High Frequency Algorithmic Cryptocurrency Trader

- Deploy developed trading algorithms to solve the portfolio optimization problem for cryptos using open-source frameworks.
- Deep learning methodologies utilized for forecasting and quasi-quantum algorithms used for portfolio optimization.
- Technologies include: Docker, AWS, Python, Jupyter Notebooks, FreqTrade, SciPy, Tensorflow, Pytorch, Pandas.

Comprehensive NBA SQL Database from Scratch — kaggle.com/wyattowalsh/basketball

- Created robust database of NBA data that updated daily and included box scores since the first match in 1946 to present day.
- Leveraged open-source technologies to ensure $0 budget for delivery of all necessary features (updating daily)
- Created data pipeline with containerized Python scripts and ensured validity by utilizing Pandera data validation.

NBA Game Attendance Forecaster — github.com/wyattowalsh/NBA-attendance-prediction

- Optimized NBA stadium stakeholder's decision making by building a Python-based game attendance prediction tool.
- Engaged with an end-to-end machine learning modeling lifecycle ranging from data collection to model performance analysis.
- Refined modeling with 10+ regression experiments resulting in a best error of 5% average stadium capacity.

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

Technical Skills

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

Data

- **Collection**: Web scraping, APIs (REST), Databases, Airflow
- **Visualization**: Reporting, Dashboards, Data Plotting, Matplotlib, D3.js
- **Processing**: Pandas, Spark, Multiprocessing, Kubernetes
- **Modeling**: ML, NLP / CV, Forecasting, Simulation
- **Deployment**: MLOps, Data Orchestration, Flask/FastAPI, Cloud Platforms

Cloud Technologies — Platforms (AWS, GCP, Azure), CI/CD (GH Actions, Travis CI), GitHub, DagsHub

Workflow — Git, Linux, Shell Scripting, Virtual Environments, Virtual Machines, Jupyter Notebooks, Docker, Kubernetes, Testing

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

Miscellaneous — 3D CAD Modeling (Autodesk & Solidworks), Microsoft Office Suite, Advanced Typesetting, 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