

Wyatt Walsh

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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 front-end UI operations: planning, implementation, validation and testing, deployment, and documentation.
- ♦ Provided guidance and support to junior developers within an agile development methodology to maximize team output.
- ♦ Technologies included: React, NextJS, Redux, Cypress, Jest, StorybookJS, ethers.js, Typescript, SCSS, Jira, Notion.

Founder, CTO

SandLabs | June 2021 - March 2022

- ♦ Created a NextJS web app including landing page, blog, and other content to best provide an online home for the project.
- ♦ Secured Web3 grant funding from the Ocean Protocol to conduct a Reddit Web3 Content data scrape and analyses.
- ♦ Partnered with two Duke University cofounders to further explore entrepreneurial opportunities 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

- ♦ Extracted 5+ years of time series forecast data using MySQL and quickly processed using Apache Spark (PySpark).
- ♦ Applied data scientific and analytic methods to create a forecast correction system improving demand forecasts by 5%-25%.

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

- ♦ Implement and deploy custom crypto trading portfolio optimization algorithms 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](https://www.kaggle.com/wyattowalsh/basketball)

- ♦ Implemented daily updating SQLite database of NBA data since 1946, including 64,000+ games, 4800+ players, and 30 teams
- ♦ Data pipeline created by using containerized Python scripts and validated by using Pandera data scheme 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.
- ♦ Enabled 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

- ♦ Implemented Lasso, Ridge Regression, and the Elastic Net in Python after reading associated research paper.
- ♦ Published 3 articles in Towards Data Science after investigating and solving 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
- ♦ Apache 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, GitLab, 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](#)