Stephen Otremba

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Experience

Seven Eight Capital (Quantitative Hedge Fund) — Sep 2022 - Present
Software Engineer, Level 2 — New York, NY / San Francisco, CA

- Managed the productionization of a new and more flexible real-time portfolio construction and simulation framework
  - Replaced the fund's legacy Java backtesting and optimization system with a DAG-based Python solution, allowing for arbitrary signal processing and portfolio marking configurations on a multi-billion dollar book
  - Extended the framework's ability to participate in opening and closing auctions in addition to continuous market trading
  - Developed production pipeline enabling the release of an arbitrary number of strategies, reducing go-to-market deployment time from months to minutes, facilitating the deployment of hundreds of millions in additional capital

Software Engineer, Level 1

- Built the firm's accounting and trade operations system in preparation for the launch of the Seven Eight Capital flagship fund
  - Implemented a bespoke, real-time trade allocation process designed to route positions and stock loan across multiple custodial brokers and separately managed accounts
  - Onboarded three prime brokers and eight executing brokers to the firm's end-of-day trade settlement system across America, Europe, and China
  - Deployed the system on AWS ECS, Lambda, and RDS with a Django web application for daily position and PnL reconciliation, investor & compliance reports, and system health monitoring

Google — Jun 2021 - Sep 2021
Graduate Software Engineering Intern — Mountain View, CA

- Extended data querying capabilities of Google's targeted advertising development tools to improve ML modeling process
- Trained clustering algorithms to automate the Ads ML development workflow by suggesting relevant model architectures

Google — Jun 2020 - Sep 2020
Software Engineering Intern — Sunnyvale, CA

- Redesigned open source libraries to assist third party web developers with the integration of Google Sign In
- Produced mock websites and UX documentation to demonstrate proper integration and use of Google's sign in products

Outage, LLC — Aug 2019 - Aug 2020
Quantitative Analyst — Boston, MA

- Implemented algorithms to help a professional pitcher achieve the highest single-season salary in MLB history at the time
- Modeled professional baseball player salaries using machine learning techniques and historical contract data

Education

Massachusetts Institute of Technology — Jun 2022
Computer Science & Engineering — Master of Engineering

Massachusetts Institute of Technology — Jun 2021
Computer Science & Engineering — Bachelor of Science

Relevant Coursework: Software Performance Engineering, Design & Analysis of Algorithms, Systems Engineering, Computational Statistics, Algorithms for Inference, Modeling with Machine Learning, Probability & Random Variables

Projects & Research

SmartPitch — Sep 2021 - Jun 2022
Master of Engineering Thesis
🔗 DSpace@MIT

- Evaluated optimal in-game decision making policies for professional baseball players using reinforcement learning algorithms
- Analyzed historical MLB pitching data to discover tailored, exploitative strategies against specific player opponents

Skills & Interests

Python	AWS	Terraform	Redis	Java
pandas, Django, numpy, scikit-learn, mosek	S3, ECS, RDS, Lambda, Batch, ElastiCache			
C/C++	Sabermetrics	Endurance Sports	Skiing	Los Angeles Dodgers