Rohan C. Shah

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Education

Cornell University, College of Engineering **Expected May 2024**
Bachelor of Science in Computer Science, Minor in Economics, GPA: 3.6 *Ithaca, NY*
Relevant Coursework: Data Structures and Functional Programming, Discrete Structures, Intro to Database Systems, Object-Oriented Programming and Data Structures **denotes in progress*

Projects and Work Experience

Cloud-Based Options Trading Bot **September 2022 – December 2022**
Cloud Team Member *Ithaca, NY*

- Built a serverless cloud computing options trading bot supporting a long-straddle strategy on AWS
- Utilized AWS CDK and Docker containers to develop and implement configuration stack for all AWS components (DynamoDB, EventBridge, Lambda) and manage Python dependency installations used to support strategy
- Validated bot architecture web scraping of article headlines from Bloomberg, sentiment analysis of headlines with DistilBERT, and writing of profit returns to DynamoDB with AWS Step Functions

Fidelity Investments **June 2022 – August 2022**
Full-Stack Engineering Intern *Boston, MA*

- Designed and built an internal AutoSys job management application (containing 90,000 jobs) using Angular and Django
- Implemented back-end view functions to query Oracle database containing jobs, along with REST APIs to send queried job information to front-end for user control and management
- Collaborated on running Jenkins CI/CD pipelines to automate migration from on-premise to AWS on S3, and hosting production-level Django server on EC2 with Nginx and Gunicorn
- Excelled in an Agile-at-Scale environment working with enterprise software to support Asset Management department, and presented project to Asset Management Technology executives

Generating Alpha via Diversified Algorithms **February 2022 – May 2022**
Project Member and Publication Author *Ithaca, NY*

- Analyzed optimal times to employ momentum/mean reverting trading strategies using the Hurst exponent, by classifying time series data as trending or mean reverting and trading in their respective advantageous times
- Assisted in proposing an optimization strategy using reinforcement learning (Q-learning) and Markov decision processes
- Research paper, *Optimizing Returns Using the Hurst Exponent and Q Learning on Momentum and Mean Reversion Strategies*: https://arxiv.org/abs/2205.11122

Age Recognition Classification **December 2021**
Project Member *Ithaca, NY*

- Scraped dataset of 8,000 human faces to divide into age groups to minimize model bias towards ages with more images
- Trained one-layer neural network to predict and categorize images into designated age groups using TensorFlow, reaching 95% accuracy through continued trials
- Presented project results as part of Cornell Data Science's "Datathon" for new member education

Campus Involvement

Cornell Data Science **October 2021 – Present**
Algorithmic Trading Subteam Member *Ithaca, NY*

- Applied financial APIs and data packages to Bollinger Band, candlestick, and regression analysis during weekly meetings
- Implement semesterly projects focused on quantitative finance, primarily focused on using high-level algorithms (Hurst analysis, derivative trading, etc.) and statistics for optimal trading strategies

Cornell Undergraduate Asia Business Society **February 2022 – Present**
Member *Ithaca, NY*

- Worked on eight deliverables/presentations on industries such as product management, entrepreneurship, and consulting during extensive new member education process while learning technical business skills
- Accepted as one of six new members out of 100+ applicants during Spring 2022 recruiting cycle

Skills and Honors

Programming Languages: Java, Python, JavaScript/TypeScript, HTML/CSS, SQL
Tools and Frameworks: Angular, AWS, Django, Docker, Git, LaTeX
Honors: Columbia University Science Honors Program, National Merit Scholarship Finalist, National AP Scholar