

Neal Patel

QUANTITATIVE FINANCE · SOFTWARE DEVELOPMENT

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Experience

Data Engineer – Clear Street Markets (Formerly Summit Securities Group)

New York, NY

SKILLS: AIRFLOW, PYTHON, PANDAS, AWS LAMBDA, C++, HIGH FREQUENCY TRADING, ARBITRAGE, AGILE, ETL, PostgreSQL

November 2022 - February 2023

- Created quantitative pipelines for packet-by-packet research tools on large scale exchange data for HFT on options, ETFs, equities, and futures
- Automated 50+ TB of daily data processing using Airflow, Podman, and Openshift for market making backtesting
- Reduced daily jobs' cloud costs and overnight runtime by switching from a C#, serverless platform to pandas based airflow jobs

Financial Engineer – MerQube Inc. [Seasonal Role]

New York, NY

SKILLS: INDEX ARBITRAGE, PANDAS, AIRFLOW, PYTHON, RISK ENGINEERING, QUANTITATIVE INDEXING, BACKTESTING, AWS S3

June 2022 - September 2022

- Launched NDXGEN5, MQMAXP6, and other quantitative indices for FIAs and ETFs on Bloomberg, Morningstar, and other vendors
- Worked directly with clients such as Citibank, XP investments, and Barclays to backtest, optimize, and test indices
- Optimized data engines using airflow, pandas, and AWS for daily index calculations and reports
- Contributed to internal libraries/APIs to facilitate mathematical computations, and maintain a distributed database of financial data

GCOM Software

New York, NY

PRODUCT MANAGEMENT INTERN

June 2021 - August 2021

- Designed full architecture for the Vital Records Platform's transition to a SaaS model from previously delivered product for New York City
- Selected and implemented numerous public indicators and parameters for the Community Health Management platform with BigQuery, R
- Utilized Microsoft Visio, Axure, Adobe XD, and other platforms to design finalized architecture of Community Health Management Platform

Software Engineering Intern - SEI Novus (Formerly Novus Partners)

New York, NY

SKILLS: FLASK, PYTHON, PANDAS, ETL, DATA ENGINEERING, QUANTITATIVE FINANCE, SCALA, JAVASCRIPT

July 2020 - December 2020

- Automated weekly reports and customized portfolio indicators for hedge funds, investment managers, and other financial institutions.
- Engineered a flask based (python) ETL platform for secure transfer of private client data between SFTPs and AWS S3
- Tested and debugged releases and support tickets to the live Alpha platform with the Engineering and Data Analytics teams

Other Projects

makeyouretf.com

New York, NY

A WEBSITE TO DESIGN AND BALANCE YOUR OWN INDEX (OR PORTFOLIO) TRACKING AND TESTING U.S. EQUITIES AND ETFs

- Launched a website with hundreds of monthly users for creating custom balanced indices using Flask and Heroku
- Designed and implemented 2 unique calculations for rebalance definition using pandas
- Created a light weight javascript UI to interact with the python/pandas backend for fluidly changing index composition

Independent Software Development/Quantitative Research Contractor

New York, NY

SKILLS: PANDAS, GOOGLE APPS SCRIPTS, JAVASCRIPT, PANDAS, AWS, OPENAI, FLASK, WANDB, LANGCHAIN

May 2021 - Present

- ML Ops @ Subconscious.ai: Developed backend tools for LLM Application using LangChain and WandB
- Sole Engineer @ New York Squash Inc: Created a user registration portal and database at Google Apps Scripts and Google Sheets
- SSS (Private Client): Quantitative models on NBA and NFL statistics and predictions using pandas
- Built: Quantitative models with pandas, web apps with Flask, databases contained in Google Sheets

Extracurricular Activities

New York, NY

UNDERGRADUATE ACTIVITIES

- **NCAA Division 1 Fencing** Fenced in 7 yearly meets under coach Ben Bratton, OLY; trained 20 hours a week at Fencers Club Inc. and on campus
- **Math Finance Group (President)** developed curriculum, participated in trading competitions, organized speaker events; lead research team
- **Model United Nations (D. Head Delegate, Head of Crisis)**; Lead travel team; organized conferences; won best delegate @ YUMUN 2021

Education

New York University

New York, NY

B.S IN COMPUTER SCIENCE | TANDON SCHOOL OF ENGINEERING, COURANT INSTITUTE OF MATHEMATICAL SCIENCES

MINORS: GAME ENGINEERING, FINANCIAL RISK ENGINEERING, SUSTAINABLE URBAN ENVIRONMENTS, APPLIED MATHEMATICS

THESIS: URBAN ENVIRONMENTAL ENGINEERING: ADDRESSING RED FLAGS OF THE GREEN NEW DEAL'S LABOR PROBLEM

RELEVANT COURSEWORK

- Machine Learning for Quantitative Finance, Design and Analysis of Algorithms, Database Design and Architecture, Distributed Systems

- **Spoken Languages:** Illinois State Seal of Bilingualism in Spanish || Native proficiency in Gujarati || Limited Hindi (Reading, Writing, Spoken)
- **Other Experiences and interests:** Stand-up Comedy, Public Speaking, Sustainability/Alternative Energy, Public Policy, Scouting
- **Hobbies:** Jazz, Analog Photography, Cheap Travel, Diabolo Performance, Hiking, Skiing, Fencing, DDR, Camping
- **Past Careers:** Chuck E. Cheese's (Cashier, Dancer) GameStop, Aquatics (Lifeguard, Manager, Swim Instructor), Baseball (Umpire)