

ALEX HSU

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EDUCATION

New York University

B.A. in Computer Science

New York, NY

Expected May 2025

- **GPA:** 3.3/4.0 | **Courses:** Software Engineering, Artificial Intelligence, Computer Systems Organization, Algorithms, Data Structures, Computer Science, Linear Algebra, Discrete Math, Statistics, Math for Econ I-II, Micro/Macroeconomics
- **Activities:** NYU Blockchain & Fintech, Tech@NYU, Chefs (Secretary), Aviation Club, Intramural Basketball (Captain)

EXPERIENCE

MetLife

Software Developer Intern

Cary, NC

Jun 2024 - Aug 2024

- Created a Python-based automation for configuration management, ensuring consistency for 100+ Linux virtual machines
- Minimized latency by 200ms per task execution and decreased security risks by implementing SSH key-based authentication
- Decreased CPU usage by over 20% and reduced idle times for 100+ machines by optimizing asynchronous tasks execution

Ideas Lab

Software Engineer Intern, Machine Learning

New York, NY

May 2023 - Aug 2023

- Created a computer vision model using TensorFlow that supports core functionality for in-app golf ball trajectory analysis
- Augmented 1,000+ pieces of data using OpenCV to allow the model to optimally learn and detect ball movement patterns
- Trained neural networks to develop an object detection algorithm that achieves 85% accuracy and a .82 F1 score on average

Hawkeye Investment Management

Software Engineer Intern, Machine Learning

New York, NY

Jan 2023 - May 2023

- Developed a K-nearest neighbors machine learning model in high dimensional space to identify optimal pairings for hedge
- Implemented 8 distinct parameters to predict the most similar ETF out of a pool of 400 to a given CEF with 95% accuracy
- Streamlined trading operations and cut down time-cost by 3+ hours daily through fully automating research & due diligence

Constellation

Data Science Intern

New York, NY

Jun 2022 - Aug 2022

- Developed a Python script using Selenium and BeautifulSoup 4 packages to automate the extraction of 1M+ points of data
- Used MySQL to assemble a dataset with 1M+ data points for clients such as International Hilton Group and Lithia Motors
- Utilized Python, Pandas, and NumPy to clean data and develop natural language processing pipelines for sentiment analysis

PROJECTS AND AWARDS

83SM Capital

- Co-founded student-run hedge fund and engineered python based backtester to optimize parameters for stat-arb algorithm
- Designed and optimized PostgreSQL database schemas to store and query over 20 million rows of time series financial data
- Automated and maintained data ingestion and transformation processes to streamline ETL pipelines for high-volume data

Brewed

- Collaborated in a team of 4 using Git to develop a full-stack personalized bar recommendation app, supporting 10+ users
- Utilized Flask, MongoDB, and Scikit-Learn to enable CRUD operations, user authentication, and a recommendation model
- Ensured consistent performance by containerizing the application with Docker and deploying the app using Digital Ocean

IMC Trading - Prosperity (Top 5%)

- Placed in top 5% for algorithmic trading competition by developing market-making algorithms and options pricing model
- Implemented ridge regression machine learning models to conduct time series analysis and optimize/increase alpha by 3%

Haute AI (Convolutional Neural Networks)

- Utilized TensorFlow to engineer a Generative Adversarial Network from scratch that generates synthetic clothing sketches
- Architected the generator/discriminator components to create a system that continuously improves realism of new images

Personal Website

- Built a portfolio website to display skills & experience using TypeScript, React.js, Next.js, Tailwind CSS, and Framer-Motion
- Hosted on Vercel and implemented a light/dark mode, animations using framer, and an email feature using the Resend API

SKILLS AND INTERESTS

Programming Languages: Python, C/C++, Java, TypeScript, JavaScript, HTML5, CSS, x86 Assembly, SQL

Frameworks/Libraries: PyTorch, TensorFlow, OpenCV, PostgreSQL, MongoDB, Express.js, React.js, Node.js, Tailwind CSS, Flask, Framer, Next.js, Vercel, Pandas, NumPy, Sk-learn, YOLOv8, Selenium, BeautifulSoup 4, Ansible, Docker, Git

Languages: English (fluent), Japanese (conversational), French (conversational)

Interests: Fintech, Basketball (New York Knicks), Tennis, Fashion (Design/Styling), Cooking, NYC Food/Restaurants