

ALEX HSU

83 St. Mark's Place, New York, NY 10003 | +1 (201) 937-5601 | alex.hsu@nyu.edu | github.com/hsualexotake | hsualexotake.com

EDUCATION

New York University

Bachelor of Arts in Computer Science

New York, NY

Expected May 2025

- **GPA:** 3.3/4.0 | **Courses:** Artificial Intelligence, Computer Systems Organization, Basic Algorithms, Data Structures, Intro to Computer Science, Discrete Math, Statistics, Mathematics for Economics I-II (Calculus I-III Equivalent), French I-IV
- **Activities:** Tech@NYU, NYU Chefs (Secretary), Luxury/Retail Association (Mentorship), Intramural Basketball (Captain)

PROFESSIONAL EXPERIENCE

83SM Capital

Software Engineer / Co-Founder

New York, NY

May 2023 – Jan 2024

- Engineered a pairs-trading algorithm that outperforms the S&P 500 by 6% and generates an alpha of 6% on backtested data
- Developed a backtester based on years of historical datasets to test/optimize parameters and enhance algorithmic strategies
- Utilized IBKR API to develop an algorithm that conducts statistical arbitrage on closed end funds using time series analysis

Ideas Lab

Software Engineer Intern, Machine Learning

New York, NY

May 2023 – Aug 2023

- Created a computer vision model that supports core functionality for in-app golf swing mechanics & ball trajectory analysis
- Analyzed results and augmented 1,000+ pieces of data to allow the model to optimally learn and detect 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

Software Engineer Intern

New York, NY

Jun 2022 – Aug 2022

- Developed a Python script using Selenium and BeautifulSoup 4 packages to automate the extraction of 5M+ points of data
- Assembled a dataset for 5M+ data points for use of predictive modeling for Hilton Worldwide Holdings and Lithia Motors
- Roadmapped the product life cycle of a data collection model using agile methodology and constructed a new internal tool

PROJECTS

Haute AI

- 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

Golfball Pathfinder

- Developed and trained a ML model to accurately detect and track the trajectory of a golf ball in any given golf swing video
- Utilized YOLOv8's convolutional neural networks and computer vision model to learn patterns from 8000+ pieces of data

Notexchange

- Implementing React.js, Django, and Spotify's API to create a full-stack website focused on sharing new music with friends
- Allows users to create an interactive room with a join code where other users can rate and choose to skip the current song

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

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

Programming Languages: Python, C, Java, TypeScript, JavaScript, HTML/CSS, x86 Assembly, Rust

Frameworks/Libraries: PyTorch, TensorFlow, OpenCV, Django, React.js, Next.js, Tailwind CSS, Framer, Node.js, Vercel, Pandas, NumPy, Sk-learn, YOLOv8, Selenium, BeautifulSoup 4

Interests: Fashion (Design/Styling), Basketball (New York Knicks), Tennis, Cooking, New York City Restaurants, Photography