ALEX HSU

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EDUCATION

New York University   **New York, NY**
B.A. in Computer Science   *May 2025*
- **GPA**: 3.3/4.0 | **Courses**: Software Engineering, Artificial Intelligence, Operating Systems, Parallel Computing, Computer Systems Organization, Algorithms, Data Structures, Linear Algebra, Discrete Math, Statistics, Math for Econ I-II
- **Activities**: NYU Blockchain & Fintech, Tech@NYU, Chefs (Secretary), Aviation Club, Intramural Basketball (Captain)

EXPERIENCE

MetLife   **Cary, NC**
Software Engineer Intern   *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   **New York, NY**
Software Engineer Intern, Machine Learning   *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   **New York, NY**
Software Engineer Intern, Machine Learning   *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   **New York, NY**
Data Science Intern   *Jun 2022 – Aug 2022*
- Developed a Python script using Selenium and Beautiful Soup 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

NYU Dean's Undergraduate Research Fund Fellow
- Designed and optimized PostgreSQL database schemas to store and query over 20 million rows of time-series financial data
- Awarded research grant by NYU to analyze complex behavioral patterns of CEFs using time-series analysis and backtesting
- Automated and maintained data ingestion and transformation processes to streamline ETL pipelines for high-volume data

Fruition (NYU Startup Accelerator Program)
- Utilized TypeScript, React.js, Node.js, PostgreSQL to engineer a role-based authentication system and responsive dashboard
- Containerized with Docker and integrated CI/CD pipelines to ensure consistent performance and automated deployment
- Working in a team of 3 to build a project management platform to support collaboration for 40+ research groups at NYU

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

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

SKILLS AND INTERESTS

Programming Languages: Python, TypeScript, JavaScript, SQL, C/C++, Java, HTML/CSS, x86 Assembly
Frameworks/Libraries: PostgreSQL, Node.js, Next.js, MongoDB, Express.js, React.js, Tailwind CSS, Flask, Framer, PyTorch, TensorFlow, OpenCV, Vercel, Pandas, NumPy, Sk-learn, YOLOv8, Selenium, Beautiful Soup 4, Ansible, Docker, Git, Firebase
Languages: English (fluent), Japanese (conversational), French (conversational)
Interests: Basketball (New York Knicks), Tennis, Fashion (Design/Styling), Cooking, NYC Food/Restaurants