

David Hao

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EDUCATION

New York University

B.A. in Computer Science and Data Science, minors in Math and Economics

New York, NY

Expected May 2026

- **GPA:** 3.9/4.0 | **Relevant Coursework:** Data Management and Analysis, Artificial Intelligence, Causal Inference, Probability & Statistics, Operating systems, Introduction to Computer Security, Object Oriented Programming, Linear algebra

PROFESSIONAL EXPERIENCE

Socotec

Full Stack Software Engineer Intern

New York, NY

May 2025- Aug 2025

- Shipped speech-to-report feature for Bluegen Inspect, allowing 100+ engineers to transcribe audio into construction reports using Whisper AI, Django, React, OpenAI, React Native reducing report creation time from 20 minutes to 2 with 80% approval rating.
- Architected a RAG based energy analysis system using LangChain, PineCone vector DB and LlamaParse which allowed visualization generalization, automatic loading to occur on Bluegen AI which had over 18K+ users
- Re-engineered a serverless AWS lambda architecture that enabled parallel processing and caching to achieve 70% latency reduction.
- Refactored a visual basic energy modeling codebase, adding Python integration for CSV parsing and 3D geometry generation eliminating 8+ hours of manual excel work per model.

ARobotics

Software Engineer Intern

Ossining, NY

Jan 2021-Aug 2023

- Worked across full robotics stack on 3 robots (thermal leak detection, window-washing, pavement inspection), handling hardware integration, sensor calibration, computer vision pipelines, and Django backend development
- Built control systems combining OpenCV image processing, Arduino motor control, and real-time sensor data, enabling autonomous navigation and remote operation capabilities

Bobst Endpoint Computing Services

Desktop Support Assistant

New York, NY

Sept 2023 - Present

- Resolved 800+ help desk tickets and contributed to React-based shift portal development for staff scheduling.

GBCS Group

Backend Software Engineering Intern

New York, NY

Jan 2025-May 2025

- Resolved 100+ backend tickets in Agile sprints, optimizing PostgreSQL queries and building JavaScript API endpoints

Club/Research Experience

High Speed Research Network Researcher | *Researcher*

New York, NY

- Collaborating with Prof. Al Olsen and NYU CREATE Lab to build a real-time biometric data pipeline using Biopac sensors, Corelink, and NYU's HPC cluster, integrating ML models for adaptive learning environments that respond to student engagement.
- Collaborated with Prof. Robert Pahle to develop a real-time calcium-imaging pipeline on an HPC Kubernetes cluster using Docker, Corelink, and FIOLA, enabling sub-30 ms closed-loop neural analysis. Utilized Python, FIOLA, CaImAn, Raspberry Pi and Bash.
- Built a ROS C++ node on a Raspberry Pi to stream thermal data from a thermal camera over Corelink, using React for real-time remote robot control via the High-Speed Research Network (HSRN).

Pi Delta Psi | Webmaster and Treasurer

New York, NY

- Built club website (100+ users), automated outreach system sending 100+ texts/emails using Python, Pandas, Twilio along with a customized bot that automatically applied to study rooms.

PROJECTS

ApplyFlow.us | *Lead Developer* | <https://ApplyFlow.us/>

React | NodeJs | FastAPI | Supabase

- Individually created a full stack website hosted using EC2, S3, Cloudfront, Cloudflare and Supabase which optimized the recruiting process by producing an optimized job for the user.
- Utilized Kubernetes to create a scalable pipeline of containerized scrapers and auto applying services across EC2 and Supabase

Propel Earth | *Fullstack Developer* | <https://propel.earth/>

React | FastAPI | Firebase

- Built and shipped core features for Propel Earth, a marketplace platform connecting startup founders with service providers, implementing user profiles, service listings, and search/discovery functionality.
- Worked in a small engineer team to design and develop full stack web applications, working on both the frontend UI components and backend APi that allow marketplace interactions to work.

Technical Skills

Languages: Python, JavaScript/TypeScript, C++, Java, C#, Go, Swift, SQL, HTML/CSS, x86 Assembly

Frameworks/Libraries: React, React Native, Django, Node.js, FastAPI, PyTorch, TensorFlow, Scikit-Learn, NumPy, Pandas, Matplotlib, OpenCV, LangChain, LlamaParse, OpenAI, Whisper, RAG, Pinecone

Cloud/Tools: AWS (Lambda, EC2, S3, Bedrock), Docker, Kubernetes, PostgreSQL, Firebase, Supabase, Git, Bash, ROS, CAD, Raspberry Pi, Arduino