

# Andy Hu

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## Skills

**Programming Language:** Python, Java, JavaScript, TypeScript, C++, Shell Script, C, MIPS, OCaml

**Development Tools & Frameworks:** React, Node.js, FastAPI, SQL DB, Git, Mongo DB, Unit Testing, Django, Flask

**AI Development:** AI agent, MCP, RAG, LLM Integration, LangChain, Vector DB, Embedding Models

**Cloud & DevOps:** GCP, AWS, Vercel, Render, Linux, Docker, Nginx, Rabbit MQ, Kubernetes, YAML, VPN

## Work

### UnieLogics (E-Commerce & Logistic Startup)

Oct 2024 – Present

Full-Stack Developer | React, Node, MongoDB, JWT, Redis, AWS, Tailwind CSS, RESTful API

Elizabeth, NJ

- Established code quality processes from the ground up, serving as the sole reviewer and approver for all code changes, enhancing the codebase through rigorous reviews and test case implementation as part of CI/CD practices.
- Led deployment and infrastructure management, handling service migrations, troubleshooting production issues, and optimizing system performance with Webpack to ensure scalability and reliability.
- Built a real-time user session management system, enforcing single-session login, enhancing security, enabling real-time notifications, and monetizing additional logins.
- Developed a team collaboration feature, enabling users to invite and manage team members with owner privileges, and offering paid options for expanding team capacity.

## Research

### National Science Foundation

June 2024 – Present

Software Developer | React, PostgreSQL, Cypress, Vite, TypeScript, Zustand

Manhattan, NY

- Developed an assistive navigation system leveraging Google Maps API to aid visually impaired users, providing detailed routes that based on obstacles, and landmarks.
- Enhanced route safety and accuracy by 40% through the implementation of intersection and collision detection mechanisms using computer vision and PostGIS, effectively alerting users during travel using text to speech.
- Utilized Google Cloud Platform to host both the database and backend services, managing requests and data processing through a Flask backend.

## Projects

### Online AI JS editor

Mar 2025 – Present

AI agent, RAG, MCP, FastAPI, Chroma, Vite, React, Pinecone, Docker

<https://js-interview-green.vercel.app/>

- Built an online JavaScript editor with real-time code execution and testing, powered by an AI agent to provide interactive, context-aware learning experiences.
- Integrated a backend with a vector database, RAG, and MCP tools, enabling an AI JS agent to deliver precise, retrieval-augmented answers for enhanced JavaScript learning support.

### Map Workshop

Feb 2023 – May 2023

React, Redux, Turf.js, Node.js, MongoDB

<https://github.com/beijijizhou/Map-Workshop>

- Collaborated with a team and built an online 2D map editing website using interactive map API Leaflet.
- Enabled users to upload maps in Shapefile or GeoJSON formats for editing, with features to save and screenshot the edited maps, facilitating easy customization and sharing by 50%.

## Education

### Stony Brook University

May 2023

*Bachelor of Science in Computer Science*

*GPA: 3.4/4.0 Stony Brook, NY*

#### Award:

- Game project “Shadow Maze” was selected as a finalist at SBU 19th Annual Game Programming Competition.

### LaGuardia Community College

Dec 2020

*Associate of Science in Math*

*GPA: 3.9/4.0 Queens, NY*

#### Award:

- Team won 1st place in New York State Math Competition in 2018-2019
- 2nd place in National Math Competition in among northeast region in 2018-2019