

# Wesley Hu

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## Education

**Georgia Institute of Technology**, *B.S. in Computer Science*, Concentration in Information Internetworks and Intelligence, Minor in Robotics Aug 2023 – Present

- **Status:** Third Year
- **GPA:** 3.94/4.0
- **Relevant Coursework:** Algorithms, Linear Algebra with Abstract Vector Spaces, Databases, Perception, Machine Learning, Probability and Statistics, Computer Systems and Networks

## Experience

**Software Engineering Intern**, MITRE – McLean, VA Jun 2025 - Present

- Currently developing low-cost, attritable autonomous UAVs and UGVs at the MASE Small Robotics Lab to address capability gaps identified by the US Military in areas of Force Protection (FORPRO) and Counter-Unmanned Systems (C-UxS).
- Designed and architected the full autonomy stack, integrating Vision-Language Models (VLMs), agentic AI and RAG pipelines, and reinforcement learning models for robust, real-time edge deployment across UAVs and UGVs.
- Built UGVs, UAVs, and edge compute platforms from the ground up. Integrated autonomy across the unmanned system network and tested field deployment and live demonstrations for program sponsors.

**CS2340 Objects and Design UTA**, Georgia Tech – Atlanta, VA Jan 2025 - Present

- Since Spring 2025 I have been an Undergraduate TA for CS2340 under Professor Pedro Guillermo Feijoo-Garcia.
- As the UTA of CS2340, I help students learn how to work in team environments using Agile methodologies.

**Software Engineer**, Experimental Flights VIP – Georgia Tech Jan 2024 - May 2024

- Worked in the Inventory Management sub-team researching the usage of drones for inventory management.
- Built Python scripts to connect multiple Tello drones via a central Raspberry Pi, enabling manual navigation and video streaming with UDP, MAVLink, and Ardupilot
- Implemented basic flight paths, automatic QR/barcode scanning to enable autonomous and accurate inventory logging in warehouses.

## Projects

**Agiler, 2024 AI ATL Hackathon** [agiler-aiatl.vercel.app](https://agiler-aiatl.vercel.app) [devpost.com/software/projo](https://devpost.com/software/projo)

- Built a project management tool that uses LLMs to analyze meeting notes/recordings to automatically update and create user stories and tasks in the backlog whenever necessary. Our tool enforces good project management practices and cuts down on manual busy-work.
- We used React, FastAPI, Python, Gemini API, Claude API, Docker, and GCR to build and deploy in two days.

### Colorspace Change of Basis

- Used linear algebra concepts in NumPy to change the RGB basis of an image and uses least squares solution when less than three colors form the basis.
- Allowed for unique image filters and bring out previously unnoticeable details useful for image forensics and preprocessing in ML pipelines.

### Automated Real-Time Stock-Market Analyzer

- Enabled a net portfolio gain of +24% from January to April 2025 despite a period of poor global market performance.
- Originally developed in 2021, a recent 2024 system redesign automated scheduling, introduced automatic alert mailing, and implemented a redesigned pattern recognition algorithm.

## Technologies

**Languages:** Python, Java, Node.js, React.js, Next.js, TypeScript, HTML, CSS, Tailwind CSS, C, C++, Assembly, SQL/noSQL Databases

**AI/ML:** CNN, LLM, VLM, OpenCV, TensorFlow, PyTorch, SkLearn, Numpy, Pandas, CUDA, Agentic AI (LangChain and LangGraph), RAG Pipeline Design, Reinforcement Learning, Edge Computing, Vector Stores

**Software/Tooling:** Docker, WSL/Linux, Redis, FastAPI, MAVLink, Figma

**Cloud CI/CD Platform:** AWS, Cloudflare, GCP, GCR, GitHub, Jira, Confluence, Git Actions

**Hardware:** Breadboard, Soldering, Arduino, Raspberry Pi, UAV, UGV, Computational Hardware, CAD