

Wesley Hu

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Education

Georgia Institute of Technology, *B.S. in Computer Science*, Minor in Robotics

Aug 2023 – Present

- **Status:** Senior (Third year)
- **GPA:** 3.94/4.0
- **Relevant Coursework:** Data Structures, Algorithms, Computer Organization, Objects and Design, Linear Algebra with Abstract Vector Spaces, Databases, Perception, Machine Learning, 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 SOCOM in Force Protection (FORPRO) and Counter-Unmanned Systems (C-UxS) for U.S. Special Operations Forces.
- Solely designed and architected the full autonomy stack, integrating Vision-Language Models (VLMs), agentic AI pipelines, RAG systems, and redundant reinforcement learning models for robust, real-time edge deployment across UAVs and UGVs.
- Currently building UGV hardware from the ground up using CAD, advanced materials manufacturing, soldering, and 3D printing techniques.
- Expected to assemble UAVs, ground control stations, and edge compute platforms; integrate autonomy across the unmanned system network; and support 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.
- Wrote Python scripts that connect to Tello drones allowing for manual control while streaming a video feed through UDP sockets, implements automatic barcode and QR code scanners, and basic flight paths.

Projects

Agiler, 2024 AI ATL Hackathon

agiler-aiatl.vercel.app 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 down to the pixel level.

Automated Real-Time Stock-Market Analyzer

- Uses Python, NodeJS, JSON, yfinance's API, and webscraping to analyze historical and real-time market data.
- Originally developed in 2021, a recent 2024 system redesign automated scheduling, introduced automatic alert mailing, and implemented a redesigned pattern recognition algorithm.
- Enabled a net portfolio gain of **+24%** from January to April 2025 despite a period of poor global market performance.

Technologies

Languages: Python, Java, NodeJS, ReactJS, Typescript, HTML, CSS, Tailwind CSS, SQL, C, C++, Assembly

AI/ML: CNN, LLM, VLM, OpenCV, TensorFlow, PyTorch, SkLearn, Numpy, Pandas, CUDA, Agentic AI (LangChain and LangGraph), RAG pipeline design, Reinforcement Learning, Edge Computing

IDE: Visual Studio Code, PyCharm, IntelliJ, Jupyter Notebook

Software: Docker, WSL/Linux, MySQL, SQLite, Postgre SQL, MongoDB, ChromaDB, FastAPI, Figma, Redis, MAVLink

Cloud CI/CD Platform: AWS, Cloudflare, Firebase, Supabase, GCP, GCR, GitHub, Jira, Confluence

Hardware: Breadboard, Soldering, Arduino, Raspberry Pi, Programmable Drones, Computer Components, CAD