

Ayan Agarwal

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EDUCATION

Georgia Institute of Technology

Graduation: May 2028

Bachelor of Science in Computer Engineering

- GPA: 4.0/4.0
- Relevant Courses: Design & Analysis of Algorithms, Data Structures & Algorithms, Programming HW/SW Systems, Intro to Artificial Intelligence, Intro to Object Orient Prog, Digital System Design, Objects and Design

EXPERIENCE

Software Development Engineering Intern | *Amazon Web Services*

May 2026 – Present

- Developing an AI-powered agent using Amazon Bedrock to use weekly trend analysis and risk identification to autonomously propose and execute actionable remind/escalate actions with human-in-the-loop approval
- Decomposing a large 1200-line Lambda function into purpose-built microservices, enabling independent scaling, deployment, and fault isolation and supporting real-time analysis, while reducing operational costs

Data Analytics Intern, Technical Operations | *Delta Air Lines*

January 2026 – May 2026

- Engineered a machine learning pipeline utilizing KNN to label and categorize a dataset of 5,000+ service events; transformed raw historical invoice data into structured market insights for maintenance and repair benchmarking.
- Developed application for engine bill-of-materials analysis, processing 10,000+ part relationships with hierarchical visualization and cost estimation capabilities in a multi-tab GUI with dynamic part details
- Improved material cost model, estimating maintenance costs for engine modules based on workscope definitions

Software Engineering Intern | *iVue Robotics*

August 2023 – December 2025

- Engineer full-stack web applications for iVue's platforms, optimizing user experience for web and mobile interfaces
- Integrated a Vue.js client with AWS services (Lambda, API Gateway, RDS) to manage all user data and content
- Facilitated \$10,000+ of drone orders through development of new product selection and orders page
- Integrated Cesium API to create custom data visualization layers for real-time drone telemetry

PROJECTS

Triage Assist | *Python, Scikit-learn, Streamlit, Groq API, Llama 3.3*

February 2025 – Present

- Built a scalable AI-powered triage system integrating Llama 3.3 and a machine learning model trained using Random Forest, SVC, and KNN algorithms with 1200+ data points to assess and prioritize patients
- Engineered a dynamic weighted ensemble technique to optimize model performance; fine-tuned algorithm weights based on feature analysis and medical context, improving predictive accuracy for patient triage recommendations
- Designed a Streamlit-based UI with dynamic color-coded levels, handling for incomplete data, and a login system

Artificial Intelligence | *CS 3600 @ Georgia Tech*

May 2025 – July 2025

- Implemented 10 projects throughout semester spanning search algorithms, deep learning, neural networks (CNNs/LLMs), reinforcement learning (MDPs), and probabilistic inference, using Python and PyTorch
- Engineered a quote search system using LLM text embeddings and FAISS for 500K quotes with Streamlit UI
- Fine-tuned a pre-trained VGG16 convolutional neural network (CNN) using transfer learning in PyTorch to perform image classification on a dataset of butterflies across 75 classes, achieving 90%+ accuracy
- Solved MDPs via Q-iteration and implemented linear regression with gradient descent to predict home prices

Undergraduate Researcher - Experimental Flight | *VIP @ Georgia Tech*

January 2025 – December 2025

- Helped develop, real-time drone monitoring system on Google Cloud Platform, creating a serverless pipeline (Pub/Sub, Cloud Functions, Firestore) for live telemetry and a scalable video streaming service
- Engineered a high-performance, asynchronous backend API using FastAPI to ingest, process, and serve real-time telemetry data (e.g., GPS, attitude, battery) from a drone

SKILLS

Programming: Python, Java, C, C++, JavaScript, CSS, HTML, Vue.js, RISC-V

Software: AWS, GCP, Git, GitHub, Django, Hugging Face, PyTorch, NumPy, Scikit-learn, Pandas