

Lucas Carlos Casas

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EDUCATION

Cornell University, College of Engineering – Ithaca, NY

Expected Dec. 2025

B.S. – **Computer Science**, Minors in Artificial Intelligence, Business

Relevant Coursework:

CS 2110: Data structures and algorithms, **CS 2800:** Discrete structures, **CS 3110:** Data Structures & Functional Programming, **CS 3410:** Computer Systems, **CS 4450:** Networks, **CS 4700:** Foundations of AI, **CS 4701:** Practicum in AI, **CS 4820:** Intro to Analysis of Algorithms, **BTRY 3080:** Probability Models and Inference, **CS 4780:** Machine Learning, **CS 4740:** Natural Language Processing

PROJECTS & WORK EXPERIENCE

Amazon, *Software Development Engineer Intern*

Jan. 2025 – Apr. 2025

- **Led end-to-end design and launch of an event-driven service** that proactively validates ~**200 million** daily abandoned-cart & browse-again email/push/SMS templates, safeguarding **>\$3 B** in annual marketing revenue.
- **Architected a scalable AWS-native pipeline** (Step Functions, Lambda, CloudWatch) running thousands of parallel validations in **< 12 seconds** - slashing mean time-to-detect issues with auto-remediation alarms.
- Built a custom SigV4-signed HTTP client with advanced cookie/header logic to access secure internal endpoints.
- Delivered **~23,000 lines of production Java/TypeScript** code boasting test coverage over **94%**.
- Authored design docs reviewed by staff engineers and management and engaged in sprint planning and SCRUM.

Lockheed Martin, *Software Engineering Intern & Fall 2024 Co-op*

Jun. – Dec. 2024

- Developed for a large pre-existing web app using **Angular**, **.NET**, and **C#** as a full stack developer.
- Hyper tuned **LLM's** and integrated **RAG as a service** to interact with proprietary data and generate insights.
- Collaborated in a team on a large-sized project leveraging git workflows, AGILE methodology and SCRUM.
- Earned an extended part-time remote position for Fall 2024 based on exceptional performance within team.

Flare, *Founder*

Mar. 2023 – Present

- Architected and developed Flare, an innovative open-source **Python** search engine that aggregates energy and climate news from diverse sources, centralizing them into a **NoSQL database** for easy access.
- Implemented advanced search capabilities leveraging **Elasticsearch** and **Lucene**, enhancing search through keyword matching, date filters, and a truthfulness algorithm that cross-references articles with IPCC climate report.
- Engineered a search engine that can sort and index 500 articles with an average speed of **78 ms**.
- Engineered an interactive globe using **React & ThreeJs**, leveraging linear algebra & trigonometry to visualize data.
- Deployed web application using cloud with **AWS** and **CI/CD pipelines** to build.

Palantir Technologies, *Palantir Launch*

Mar. 2024

- Mentored by Palantir engineers to work and learn about the Palantir AIP (Artificial Intelligence Platform).
- Engaged in learning workshops to improve technical interview and collaborative software skills.
- Analyzed a pandemic simulation, leveraging **Palantir Foundry**, **AIP**, and **Typescript** to draw analytical insights.

Ventures Accelerated, *Software Fellow*

Sep. 2023 – Present

- Collaborated with startups, providing software consultancy & code tailored to their requirements.
- Integrated a team's **AWS Lambda backend**, improving API response speed by **~35%** from their **Flask** counterpart.

Cornell Hitch, *Cornell AppDev Hackathon Runner-Up Back-end Developer*

Dec. 2022

- Developed a **Flask REST API** application with **Python** to handle ridesharing to airports for Cornell students.
- Won the **second-place award out of ~120 peers** for best backend.
- Created a secure student authentication API with **OAuth**, **SQLite3**, and **Alchemy**.
- Worked in a team of three, using **GitHub** for DevOps, resulting in a cohesive frontend-backend pipeline.

LEADERSHIP

Sin Fronteras Club, *President*

- Organized the running, financing, planning, and coordination of all campus events related to Hispanic culture.

Cornell Prepare, *Prepare Mentor*

- Led and mentored a diverse group of international incoming students, facilitating transition to Cornell.

SKILLS

PROGRAMMING: Python, Java, Typescript, C#, C, OCaml, Rust, JavaScript, SQL, C++

LIBRARIES/FW: React, Node, AWS, Angular, .NET, Docker, Elastic, SQLAlchemy, OAuth, Flask, REST APIs, Git, GCP

LANGUAGES: Spanish (native), English (native), Catalan (proficient)