

Gabriel Castillo

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Education

Cornell University, College of Arts and Sciences

Ithaca, NY

BA in Computer Science *GPA: 3.83*

Relevant Courses: OOP & Data Structures (Honors), Discrete Math, Functional Programming, Intro to ML

Technical Skills

Languages: Swift, Java, Python, TypeScript, JavaScript, OCaml

Skills: Flask, SQLAlchemy, PyTorch, Firebase, UIKit, JavaFX, Expo, React Native, React, Bootstrap, AWS S3

Experience

rapStudy — US DoE-funded Musical Ed-Startup

Remote

Full-Stack Software Engineer Intern

Dec 2024 – Aug 2025

- Refactored a 5,000+ line React codebase, improving page load times by 30% and increasing customer satisfaction.
- Resolved major Firebase syncing issues, increasing data throughput by 40%, fixing 6 bugs in the process.
- Delivered 3 new features that enhanced platform usability and demo success, expanding user engagement.
- Automated testing suite and deployment system to reduce release and update cycle times by 20%.

Jane Street

New York, NY

FOCUS Fellow

May 2025

- Completed market simulations, problem-solving challenges, and Chip Trading Game to refine critical thinking skills.
- Gained hands-on exposure to OCaml, building functional programming skills for quantitative finance.
- Analyzed behavioral finance case studies in Heuristics & Biases workshop, identifying cognitive bias impacts.

Blue Pond Group Ltd. — Hatch Blue Backed Startup

Chiang Mai, Thailand

Full-Stack Software Engineer Intern

Aug 2022 – Jun 2024

- Built, launched the company website and blog using HTML, CSS, and JS, and automatized posting system.
- Developed an iOS app for shrimp farmers using Swift and Firebase with a beta user base of over 30 people.
- Boosted profits by 15% through product placement analysis with Python, enhancing operational decision-making.
- Wrote and created application, pitch and social media that got the company accepted to Hatch Blue.

Projects

Harbor – Cornell Dating App 

Jun 2025 – Present

- Launched largest dating app at Cornell gaining over 40 active users in the first week.
- Spearheaded full stack development with React Native (Expo), TypeScript and Firebase.
- Built secure photo reveal system with an intermediate consent screen using GCloud Storage Signed URLs.
- Helped build advanced AI recommendation system that learns from a users profile and who they swipe on.

HSPorter – AI-Powered HS Code Classification System 

Oct 2025 – Dec 2025

- Built AI classification system achieving 75-80% accuracy across 19,000+ HS codes for import classification.
- Implemented RAG pipeline reducing 1,264 headings to top 15 candidates, cutting LLM token costs by 98.8%.
- Developed multi-path tree traversal algorithm with confidence-based branching for parallel classification.
- Architected multi-LLM layer supporting 4 providers (OpenAI, Anthropic, Groq, Gemini) with hot-swappable config.

Odyssey – Interactive OCaml Theorem Prover 

Mar 2025

- Worked with 3 others to build propositional logic theorem prover with SAT solving and tautology check.
- Implemented recursive descent parser and AST interpreter in OCaml with 5 logical operators.
- Developed interactive CLI with ANSITerminal for colored output and step-by-step proof visualization.
- Added CNF conversion, DIMACS export, and LaTeX document generation for academic compatibility.

LockedIn – iOS Swipe-Based Networking App 

Dec 2024

- Won best UI (out of 28 teams) at AppDev's Hack Challenge building a LinkedIn-Tinder hybrid native iOS app.
- Developed frontend with Swift and UIKit; integrated Firebase for auth and real time messaging and notifications.
- Helped create and design REST API with Flask, SQLAlchemy; used AWS S3 for image hosting.

Artificial Life Evolution Simulator

Aug 2024 – Dec 2024

- Led a team of 4 to develop a creature evolution simulation with food, reproduction, and mutation.
- Implemented a parser and AST interpreter with fault injection capabilities.
- Built simulation engine and JavaFX GUI with real-time user interaction.
- Enabled large-scale simulations of billions of ticks to emulate evolutionary behavior with advanced statistical tracking.