

# Gabriel Castillo

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## Education

### Cornell University, College of Arts and Sciences

BA in Computer Science *GPA: 3.83*

Ithaca, NY

Expected May 2028

**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

*Full-Stack Software Engineer Intern*

Remote

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

*FOCUS Fellow*

New York, NY

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

*Full-Stack Software Engineer Intern*

Chiang Mai, Thailand

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 Connection App ↗

Jun 2025 – Present

- Spearheaded full stack development with React Native (Expo), TypeScript, Firebase.
- Built secure photo reveal system with an intermediate consent screen using GCloud Storage Signed URLs.
- Implemented Cornell-only access with a custom email verification flow and strict @cornell.edu enforcement.
- Helped build advanced AI recommendation system that learns from a users profile and who they swipe on.

### Fyndz – Thriftstore Discovery and Review App

Apr 2025 – Present

- Developed and shipped core frontend features using React Native and Expo, improving app responsiveness and UX.
- Designed and implemented reusable objects and classes that reduced code duplication by 20% improving performance.
- Collaborated with a 4-person engineering team using Agile practices, coordinating weekly sprints and code reviews.
- Added Firebase-based user authentication and Google Maps API integration to enrich app discovery features.

### 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.