

# Ryan Ho

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## EDUCATION

### Cornell University, Collge of Engineering

Ithaca, NY

*Bachelor of Science in Computer Science*

*Expected May 2026*

- Relevant Coursework: Algorithms, OOP & Data Structures, Functional Programming, Discrete Structures, Linear Algebra

### Egg Harbor Township High School

Atlantic County, NJ

*High School Diploma*

*June 2022*

- Honors: 99th Percentile Class Rank, High Honors Varsity Scholar, National Honor Society (President), 500+ Service Hours

## EXPERIENCE

### Altum Labs

New York City, NY

*SDE Intern*

*March 2023 – August 2023*

- Developed a .MZXML mass spectrometer file parser which decodes raw files containing compound peaks and ionization levels
- Designed data access strategies on Supabase, utilizing Row Level Security implementations, to safeguard user information
- Created a React application integrating Supabase for database operations and optimizing latency through SWR React hooks

### OKB Hope Foundation: Hope Health Van

Remote

*SWE Intern*

*December 2022 – January 2023*

- Deployed a back-end application leveraging the MERN stack on Amazon EC2 to assist medical professionals in Africa
- Programmed a server to receive, process, and store patient information while using REST APIs to perform back-end testing
- Implemented an SSL certificate to secure API endpoint calls through Certbot/Nginx while using Route53 to manage DNS

### Rotary International

Atlantic County, NJ

*Fullstack Developer*

*June 2020 - June 2022*

- Completed a Flask-based project, hosted on Linode, which used SQL databases to fetch and manipulate member information
- Built and deployed a Dockerized microservice architecture, improving system scalability and maintaining 99.9 % uptime
- Allowed for an accumulation of 800+ collective service hours between 300 members throughout the 2021 - 2023 service years

### FBLA-Phi Beta Lambda Inc.

Atlantic City, NJ

*Project Manager & Web Developer*

*September 2021 – February 2022*

- Developed first-place winning full-stack web application for state-wide competition using Django and SQLite databases
- Programmed responsive UI/UX for all devices through HTML/CSS, JavaScript/jQuery, and Bootstrap libraries
- Employed Twilio API to create a call-fetch system that allowed users to receive real-time notifications for reservations

## PROJECTS

### C++ Compiler | C++, Flex, Bison, LLVM

*August 2023*

- Designed a custom toy language compiler, encompassing a pipeline from lexical analysis to LLVM-based bytecode generation
- Developed a lexer using Flex (Lex) to tokenize input data, breaking it down into identifiers, numbers, and operators

### ARM Bootloader | ARM, C++,

*July 2023*

- Engineered a bespoke x86 boot sector with an advanced capability to load data exceeding the conventional 512-byte limit
- Leveraged the BIOS-provided to design a linker script to specify memory layout and combine assembly and C++ code

### claim.ai | OpenCV, pandas, scikitlearn

*May 2023*

- Web application which determines the authenticity of hospital bill charges through computer vision and machine learning
- Implemented cosine similarity algorithms to determine median price differences given procedure titles against public dataset

### TrivAI | Swift UI, React Native, AWS Lambda

*February 2023*

- Created a mobile application for both iOS and Android that leverages LLMs to generate questions and study materials
- Engineered a front end with custom components with both Swift UI and React Native, prioritizing AWS integration

## AWARDS AND CERTIFICATIONS

- Z-Fellows Finalist *May 2023*
- Ingenious+ Youth Innovation Challenge Winner *April 2023*
- 2022 Big Red Hacks Hackathon: Best Hack for User Accessibility sponsored by Fidelity Investments *October 2022*
- First place at New Jersey Future Business Leaders of America's Web Design Contest *May 2022*

## TECHNICAL SKILLS

**Languages:** Python, Java, C++, OCaml, HTML/CSS, TypeScript/JavaScript, Swift, SQL

**Technologies:** React, Node, Express, Flask, Django, TensorFlow, scikit-learn, pandas, Dynamo, Mongo, Firebase, Supabase

**Developer Tools:** Git, Docker, Ubuntu, Jupyter Notebook, AWS, GCP, Linode, Vercel