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 – Current*
- 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/JS, 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