Ryan Ho

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Education

Cornell University, College of Engineering Ithaca, NY

B.S. Computer Science — GPA: 3.705 *August 2022 - December 2025*

- **Relevant Coursework:** Systems Programming, Computer Systems, Computer Graphics, Machine Learning, Data Science, Algorithms, OOP & Data Structures, Functional Programming, Discrete Structures, Linear Algebra, Probability

Egg Harbor Township High School Atlantic County, NJ

Experience

Cisco — Software Engineering Intern May 2024 – September 2024

- Shipped two new production features for a distributed real-time metric retrieval processing platform using gRPC requests, collaborating with deployment teams to scope and design workflows to support commonly requested use cases
- Pioneered the launch of a network detection and mitigation tool, monitoring privacy scores of various LLM applications

Plantalysis — Software Development Intern March 2023 – August 2023

- Developed an API orchestration layer, consolidating 13 services into a streamlined RESTful microservice architecture
- Led a team of 8 in designing a type-safe backend architecture using TypeScript and Node.js, and a responsive front-end with Next.js. Leveraged Stale-While-Revalidate with React Hooks to optimize data-fetching and reduce access latency
- Implemented data access strategies with Supabase, integrating Row Level Security protocols to hash and protect data

OKB Hope Foundation — Software Engineering Intern December 2022 – January 2023

- Deployed a robust full-stack application using the MERN stack on AWS EC2, providing critical medical services to remote communities in Ghana. Securely managing over 1,200 patient records with decentralized data storage
- Implemented JWT authentication, securing data with stateless sessions and streamlining access across medical units
- Secured APIs with SSL certificates via Nginx for load balancing and content caching. Managed DNS with Route53.

Projects

GoDFS | *Golang*

- Designed a distributed file system in Golang with data replication, fault tolerance, and sharding to enhance performance
- Implemented node clustering and failover to maintain consistency and ensure availability using consensus algorithms

GOT | *OCaml*

- Architected a lightweight version-control CLI tool in OCaml, incorporating file marshaling and binary serialization
- Developed end-to-end unit tests to ensure data accuracy between serializations and debugged file-system race conditions

EdgeML | *Flask, TensorFlow*

- Integrated a client-side application with stereo depth estimation and facial recognition pipeline for real-time processing
- Designed a frontend platform with asynchronous data processing, optimized for memory constraints on Jetson Nano

Activities and Leadership

Cornell Data Science | Technical Chair, Data Engineer September 2022 - Current

- Shipped web application to enhance club infrastructure and developed internal software to streamline recruitment
- Implemented motion-detection for facial recognition system in C++ using OpenCV to achieve low-latency video capture

Cornell Bowers College of Computing | Teaching Assistant August 2024 - Current

- Served as a teaching assistant for Computer System Organization and Programming (FA24).
- Conducted weekly office hours, delivering explanations for assignments and consistently receiving outstanding feedback.
- Evaluated student homework and projects on a weekly basis, offering feedback and personalized guidance on corrections

Technical Skills

Languages: Python, Java, C++, C, OCaml, TypeScript/JavaScript
Technologies: React, Node, Express, Next, Flask, Django, TensorFlow, PyTorch, MySQL, MongoDB
Developer Tools: Git, Docker, Ubuntu, Jupyter Notebook, AWS (Lambda, EC2, Route53, EventBridge), CI/CD