Ethan Rong

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Education

Ivey Business School and University of Western Ontario

Computer Science (BSc) and Honors Business Admin (HBA) — *CGPA: 3.7/4.0*

- **Awards:** Western Scholarship of Distinction, Top 2/35 @ IBM Tech Consulting Comp, Semi-Finalist 4/63 @ Ivey Case Comp
- **Coursework:** Data Structures & Algorithms in Java, Systems Programming in Linux, Software Engineering in Python/Git

Technical Skills

Languages – Python, Javascript, Typescript, Java, Bash, SQL, HTML, CSS, SASS, C, C++

Dev. Tools – Git/GitHub, Amazon Web Services (AWS), Azure, Docker, Linux (CentOS), Node.js, Firebase, Regex

Libraries/Frameworks – React-JS/Native, Next-JS, Tailwinds, Flask, ExpressJS, MongoDB, MySQL, Pandas, Tensorflow, Nginx

Miscellaneous – Agile/Scrum, UML Diagrams, DNS, Microsoft Office 365 (Word, Powerpoint, Excel, Outlook... etc)

Professional Experience

Meta (formerly Facebook) & Major League Hacking (MLH) — **New York, NY, US**

Production Engineer Fellow — *Jun 2024 - Sep 2024*

- Accelerated **deployment times by over 40%** by implementing a CI/CD pipeline using GitHub Actions and Bash scripting; incorporated 5 unit and 3 integration tests as a part of the CI/CD workflow with the Python unittest library.
- Optimized a **Docker image's size by 65%** for a Python/Flask web app by refining the container's base image and using Docker's layer caching, leading to faster querying across 4 MySQL tables, increased scalability of the app, and zero downtime deployment.
- Minimized **response time by over 20%** with real-time server analytics using Grafana and Prometheus with 5 alerts/dashboards.
- Load-tested a production site deployed on Digital Ocean with **over 2,000 simulated concurrent users** using Apache Bench.

Lillup — **San Francisco, CA, US**

Software/Machine Learning Intern — *May 2024 - Aug 2024*

- Engineered **5 core API features** that interacted with Lillup's web platform using AWS Bedrock and Lambda enabling seamless integration with 4 development teams and their projects while following best security practices with IAM Users/Roles.
- Analyzed **12 user requirements** gathered from stakeholders to design backend systems architecture to build core API features.
- Processed **over 1,000 API requests** by deploying an LLaMa3-based RAG model and successfully implemented query routing utilizing LLaMa3 Router Indexing to pull text from 3 different corpuses stored on GraphDB vector databases.

Ontario Ministry of Transportation (MTO) — **Toronto, ON, Canada**

Software Developer — *May 2023 - Aug 2023*

- Led a team of 9 developers to **optimize an AI resume-ranking model to a 97.8% accuracy** by employing over 2M embeddings and 900 resumes in its training; deployed the model on a React-JS frontend, using UI libraries like ShadCN and ChakraUI.
- Reduced **search times by over 30%** for various teams by creating a file-based search system with Java Swing and RESTful API.
- Improved **average ticket response times by 48%** for MTO's incident response team by creating a centralized dashboard with PowerBI and Microsoft Azure to curate and analyze over 20 distinct statistics for ongoing tickets sourced from 5 databases.

Extracurriculars

Western Artificial Intelligence (WAI) | *Vice President of Finance* — *Sep 2022 - Present*

- Lowered estimated hosting costs by **+80% for WAI's WQuest** platform, by migrating WQuest's backend infrastructure to AWS with Amplify, and RDS, while optimizing and integrating 8 different API endpoints built on Django, React-JS and Axios.
- Achieved a **+85% user satisfaction rate** among beta testers by conducting +100 user interviews and follow-ups.

Western Founders' Network (WFN) | *Vice President of Projects* — *Sept 2023 - Present*

- Showcased and developed a full stack mobile contact tracking app at 3 demo days within 6 months, simultaneously managing and training a group of 4 developers to code 4 features and 10 mockups with tools like React-Native, Django, and SQLite.

Projects

Nourish-Now | Flask-RESTful, Keras, Pandas, React-JS — ***2nd Place @ Maple Hacks***

- Received **2nd in the SDG category** out of 63+ coders for an app that forecasts 30-day cost estimates for the WIC food program.
- Attained a +90% accuracy for all 50 US states with a LSTM AI model made with Keras and trained on 7.5K data points in 36 hrs.

Hover-Touch | Python, OpenCV, Google Cloud Platform (GCP), Git — ***4th Place @ Hack Western***

- Awarded **4th out of 270+ hackers and 70+ projects** for demoing a video-to-speech tech that translates hand gestures to speech.
- Leveraged GCP to get an accuracy of 98.3% to perform real-time hand tracking and optical character recognition (OCR).