

Ricky Luo

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EDUCATION

University of British Columbia

Bachelor of Science in Computer Science

Expected Graduation: Apr 2026

Vancouver, BC

- Courses: Data Structures & Algorithms, Relational Databases, Computer Networking, Software Engineering

WORK EXPERIENCE

Boeing

Jan 2024 - Jun 2024

Software Engineer Intern

Vancouver, BC

- Built an end-to-end dashboard in React serving **75 clients**, integrated with a PostgreSQL back-end via SQLAlchemy.
- Reduced load time for approximately **10,000 flight data points** by optimizing API routing using Python and Flask.
- Optimized data management speed by **37%** by refactoring and simplifying execution calls in GCP Workflows.
- Implemented scalable microservices architecture improving data processing by **30%** using Django and REST APIs.
- Spearheaded Databricks integration by converting **80+** worker outputs to Delta tables with Pandas and PySpark.

Bank of Montreal (BMO)

Jan 2023 - Aug 2023

Software Engineer Intern

Toronto, ON

- Automated AWS deployment approvals, saving ~**\$55k/month** via a Python tooling solution and GitHub Actions.
- Accelerated policy creation time by **33 times** by creating an automatic parsing API with Babel, Next.js, and Node.js.
- Decreased steps needed to view AWS details by **79%** by developing a React dashboard, using AWS SDK calls.
- Monitored a Jenkins pipeline **supporting 24+ teams** by setting up performance indicators in AWS CloudWatch.
- Enhanced code quality through Jest tests (**83% coverage**) and ensured code safety by refactoring to TypeScript.

PROJECTS

Simple Domain Name System Client | Java, java.net, TCP, UDP

- Created a DNS resolver, achieving resolution speeds comparable to dig and supporting 5 query types in Java.
- Built to parse and handle 512 byte messages for both individual and iterative DNS queries using DatagramSockets.

League of Legends Discord Bot | discord.py, Python, HTTPX, DynamoDB

- Developed a Discord bot used in 3 servers with 373+ users that uses Riot API with HTTPX to query user data.
- Set up DynamoDB back-end to store 40+ users' information and query history to reduce REST API dependency.

PowerPoint to Notes Converter | MongoDB, Express.js, React, Node.js, Next.js, Python, TypeScript

- Prototyped a full-stack application that uses OpenAI API to convert .pptx and Google Slides into simplified notes.
- Designed the front-end using React and Tailwind with user authentication using Auth0 to ensure 100% security.

Pokémon Quiz Web App | JavaScript, React, Node.js, Axios, Material-UI, HTML, CSS

- Engineered a fully responsive quiz web app with a React front-end, Node.js back-end, and Material-UI for styling.
- Integrated RESTful APIs, improving load times to 1 second by leveraging Axios to dynamically fetch and display data.

Receipt Tracker Web App | Python, JavaScript, Flask, GCP, HTML, CSS

- Created a receipt-scanning app that won 6ixSideHacks using Python, Google Cloud Vision API, and Google Sheets API.

TECHNICAL SKILLS

Languages: Java, Python, C, C++, JavaScript, TypeScript, HTML, CSS, Bash, SQL

Frameworks/Libraries: React.js, Next.js, Express.js, Tailwind CSS, Jest, JUnit, Flask, Django

Tools/Platforms: Node.js, AWS (Amazon Web Services), GCP (Google Cloud Platform), Git, Unix, NoSQL, Postman, Docker

Concepts: Test-Driven Development, Agile Methodology, Object-Oriented Programming, CI/CD, Machine Learning