Ricky Luo

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EDUCATION

University of British Columbia   Expected Graduation: Apr 2026
Bachelor of Science in Computer Science   *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 data points** by optimizing API routing using Python and Flask.
- Improved 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 worker output to Delta tables with Pandas and Apache Spark.

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 the 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.
- Improved code through Jest tests **(83% coverage)** and ensured code safety by refactoring to TypeScript.

PROJECTS

Simple Domain Name System Client | *Java, java.net, TCP, UDP*
- Implemented a DNS resolver (similar to dig) capable of supporting A, AAAA, MX, NS, and CNAME queries in Java.
- Built to parse and handle both individual and iterative DNS queries using Java DatagramSockets and RFC 1035.

League of Legends Discord Bot | *discord.py, Python, HTTPX, DynamoDB*
- Developed a Discord bot that uses Riot API with HTTPX to query user data such as match history and rank.
- Set up DynamoDB back-end to store user information and query history to reduce REST API dependency.

PowerPoint to Notes Converter | *MongoDB, Express.js, React, Node.js, Next.js, Python, HTML, 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 CSS and implemented user authentication through Auth0.

Pokémon Quiz Web App | *JavaScript, React, Node.js, Axios, Material-UI, HTML, CSS*
- Engineered a responsive quiz web app with a React.js front-end, utilizing Material-UI for styling.
- Integrated RESTful APIs with Axios and JavaScript to fetch dynamic Pokémon data.

Receipt Tracker Web App | *Python, JavaScript, Flask, GCP, HTML, CSS*
- Created an app that automatically scans receipt data with 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, 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 Development, Microservices, Object-Oriented Programming, CI/CD