Ricky Luo

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EDUCATION

University of British Columbia   Expected Graduation: May 2026
Bachelor of Science in Computer Science   *Vancouver, BC*
- Courses: Data Structures & Algorithms, Relational Databases, Computer Networking, Artificial Intelligence

WORK EXPERIENCE

Microsoft   May 2025 - Aug 2025
Software Engineer Intern   *Redmond, WA*
- Improved OneDrive image upload speed **3×** for **300M users** by optimizing concurrent disk I/O operations in C++
- Engineered a metadata extraction tool, reducing query response times **from 150ms to 2ms**, storing results in SQLite
- Added metadata extraction support for JPG/PNG files to enable indexing, covering **91%** of image uploads, using C++
- Refactored code to support parallelized processing of **350+** batched work items using PPL thread pooling

Boeing   Jan 2024 - Jun 2024
Software Engineer Intern   *Vancouver, BC*
- Built a flight data 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
- Increased data processing throughput by **37%** through refactoring execution calls in Google Cloud 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×**, creating an automatic parsing API with Babel, Next.js, and Node.js
- Reduced 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

PROJECTS

Domain Name System Client | *Java, java.net, TCP, UDP*
- Created a DNS resolver, achieving resolution speeds comparable to dig and supporting 5 query types using Java
- Parsed and handled 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 370+ 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

TECHNICAL SKILLS

Languages: Java, Python, JavaScript, TypeScript, C, C++, HTML, CSS, Bash, SQL, Go (Golang), Kotlin
Frameworks/Libraries: React.js, Next.js, Express.js, Tailwind CSS, Jest, JUnit, Flask, Django
Technologies: Node.js, AWS, GCP (Google Cloud Platform), Git, Unix, NoSQL, Postman, Docker, GraphQL, Redis, Azure
Concepts: Test-Driven Development, Agile, Distributed Systems, Object-Oriented Programming, CI/CD, Machine Learning