

Brian Hu

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TECHNICAL SKILLS

Languages: Java, Go, Python, Javascript, SQL

Frameworks: React, Material-UI, Node.js, Flask, JUnit, Springboot, Groovy, Jest

Tools: Git, Jira, Jenkins, AWS (EC2, SQS), Docker, CUE, Concourse

WORK EXPERIENCE

Squarepoint Capital

Sep. 2022 – Dec. 2022

Software Engineer Intern

Montreal, QC

- Developed dependency analysis tool using **Python** to detect external and internally identified security vulnerabilities, integrated Gitlab CI/CD to automate dependency upgrading across internal projects
- Implemented trade template validation in Strategy Registry Framework using **React** to reduce user errors by 20%
- Added error logging with **Pino** to internal company dashboard, providing updated data for cloud monitoring

DRW Trading Group

May 2022 – Aug. 2022

Software Engineer Intern

Montreal, QC

- Built form processing tool using **Go** to automate network tower reporting through Prontoforms, with **Amazon SQS** and **Factory**, saving up to 10 hours a week of manual overhead in processing forms
- Extracted RESTful logic from different Go-based applications into library to interact with internal API, refactored existing projects to integrate with new library
- Leveraged **CUE** scripting and **Concourse** to generate YAML configuration files for various internal CI/CD pipelines, automating the generation of over 400 lines of configuration per pipeline
- Worked closely with another intern to prepare and deliver a two hour CUE workshop to a team of 10 developers

CloudOps

Aug. 2021 – Dec. 2021

Full-stack Developer Intern

Remote

- Implemented full-stack features using **Java Springboot** and **Vue.js** of a multi-cloud management SaaS platform, integrating REST APIs of public and private cloud platforms
- Identified database performance issues using **Elastic APM** and **Kibana**, refactored database calls to reduce latency by 70%+, and modified **SQL** tables based on feature requirements
- Developed unit tests using **Groovy** and **Jest**, and achieved 90% code coverage

McGill Data-Intensive Storage and Computer Systems Lab

Apr. 2021 – Aug. 2021

NSERC Undergraduate Researcher

Remote

- Conducted research project with \$7500 in funding from the **Natural Sciences and Engineering Research Council of Canada**, focusing on **NoSQL** systems design for real-time data analytics on **RocksDB** using **C++**

PROJECTS

Full Stack Marathon Training App | *React, Redux, MongoDB, Express, Node.js*

- Web application using React.js & Material UI for front-end dashboard and MongoDB & Node.js for back-end
- Implemented authentication (Google OAuth) and state management using Redux

C Compiler | *C, Java, MIPS Assembly*

- Compiler written in Java to target a subset of the C language and output MIPS assembly code
- Incorporates lexer/parser, AST builder, semantic analyzer, register allocator and code generator
- Supports OOP features and minimizes memory accesses by performing register allocation via graph coloring

EDUCATION

McGill University

Sep. 2019 – May 2023

Bachelor of Science in Computer Science

Montreal, QC

CGPA: 4.00/4.00 (Dean's List, Faculty of Science Scholarship)