

Jason Hu

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🎓 Education

University of Toronto

Candidate, Honours Bachelor of Science

Sep 2018 – present (expected Dec 2022)

Toronto, ON, Canada

> Specializing in the **Entrepreneurship Stream** of **Computer Science Co-op major**

⚙️ Skills

Languages JavaScript, TypeScript, Java, Python, HTML, CSS, SQL, C, Lua

Libraries/frameworks Node.js, React, Express, Redux, Spring Boot, Mocha, Pact

Technologies/databases Git, MongoDB, Redis, Kafka, PostgreSQL, Neo4j, GitHub, Jira

🏢 Experience

BlackBerry

Software Developer Intern

May 2021 – Aug 2021

Waterloo, ON, Canada

- > Developed features for a **Node.js-Redis backend service** that manages access control rules for network security platform **CylanceGATEWAY**, through **test-driven development** with **Mocha unit testing**, **integration testing**, and **Pact contract testing**
- > Implemented data synchronization to **synchronize Redis caches across service instances**, with a **delta calculator algorithm** to calculate database differences, delete stale records, and re-query data if necessary
- > Wrote and optimized a **Redis database housekeeping Lua script** to scan for, daily, and **delete up to 100 stale records in <1.5s**, through a **non-blocking cursor recursion algorithm**, monitored using **Prometheus metrics**
- > Applied **Redis Pub/Sub** to publish, listen for, and respond to events to update a Redis cache in run-time
- > Created a class to manage connection, REST API queries, and live **Kafka events** from another service

OpenText

Software Developer Intern

Jan 2020 – Aug 2020

Richmond Hill, ON, Canada

- > **Reduced test pipeline results lookup time by >90%** by creating a **Python Tornado** dashboard to **display Jenkins unit tests results**, using **D3.js charts** and **Bootstrap** to categorize test results with tables and charts
- > Created a document management web app to **demonstrate OpenText's OT2 cloud content management APIs and services**, using **React**, **TypeScript**, and **Material-UI**
- > Configured **automated testing Python script** to leverage Windows VMs, using **PowerShell** and **Paramiko SSH**

🏠 Projects

Real Estate Agent CRM – CRM web app

React, TypeScript, Node.js, Express, MongoDB

- > A customer relationship management web app for real estate agents to **manage multiple clients' properties and profiles**, built with **React**, **TypeScript**, **Node.js**, **Express**, **MongoDB**, and **Material-UI**
- > Implemented full stack **authentication flow** from **React** login/signup pages to backend authentication, using **bcrypt**, **express-session**, **Mongoose**, and **Express middleware**

Planit – Trip advisor mobile app

React Native, Redux, Java Spring Boot, MongoDB

- > A full stack, trip advisor mobile app that **generates recommended vacation itineraries** based on user preferences, built with **React Native**, **Redux**, **Java Spring Boot**, **MongoDB**, and **Google Maps API**
- > Implemented itinerary manipulation such as adding and deleting events from the itinerary while re-scheduling existing ones, as one of the app's **main features**

Spotify-lite – Backend microservices

Java Spring Boot, MongoDB, Neo4j

- > A **backend for a music player service** composed of two **REST API microservices**, built with **Java Spring Boot**
- > Stored user info in a **MongoDB collection** and playlists in a **Neo4j graph** respectively
- > Wrote **Cypher graph queries** for nodes up to three relationship depths away