Rickson **Yang**

Software Engineering • Unix Enthusiast

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Education

University of Waterloo

Waterloo, Ontario, Canada

Software Engineering

*2019 - 2024 (**CGPA of 89%**)*

- Candidate for BSE with President's Entrance Scholarship.

Skills

Languages Java • JavaScript • TypeScript • Python • C# • HTML • CSS • SQL

Tools & Frameworks React • Node.js/Express • Jetty • Hibernate • MongoDB • Android • Docker • GCP • Heroku • Git

Work Experience

Axonify

Waterloo, Ontario, Canada

Java Developer | **Java, Hibernate, Jetty, MySQL, Couchbase, Docker, Liquibase**

January 2021 - April 2021

- Developed core server backend with **Java**, **Jetty**, **Hibernate ORM**, and **MySQL**
- Reworked a complex user metrics system tracking **1,000,000+** records, replaced a bulky refresh system with a granular job scheduling system to trigger refreshes. Improving average runtime from **3-4 hours** to **1-5 minutes**
- Worked concurrently with a client developer to integrate pagination and result filters on the platform, reduced load time by over **70%**
- Implemented a new resource management tools with Java **MBeans** to simplify resolving support issues with SCORM modules

DigitalEd

Waterloo, Ontario, Canada

Fullstack Developer | **Java, Apache Struts, Vue.js, PostgreSQL, Docker, Cypress**

May 2020 - August 2020

- Used **Vue.js** and **Java** with **Apache Struts** to modernize the monolithic codebase for the Möbius courseware
- Did foundational research for a document importer which converts DOCX files into interactive lessons in the platform. Built a prototype that extracts paragraphs, tables, and MathJax from DOCX files using Java and **Apache POI**
- Took initiative to create utility **Docker** scripts, improving engineering workflow by reducing unnecessary commands from **9** to **1** line
- Took initiative to start automate manual tests using **Cypress**, reduced relative testing time by over **80%**

Projects

Discourse

Platform for live collab-coding | **Typescript, React, Node.js/Express, MongoDB, Heroku**

- Built and deployed a full-stack web application that allows users to create public/private rooms and code together
- Used **Socket.IO** to enable real-time interactions between users in rooms, such as chat and notifications
- Implemented a secure REST API server using **JWT**, connecting user-room sessions and establishing CRUD systems

Gyroll

A 3D Marble Tilt Maze game featuring a gyroscope | **Unity, C#, Arduino**

- Integrated a DFS maze generation algorithm with interactive objects such as spike balls onto a tilt-controlled platform with **C#**.
- Built and integrated a game controller with angular/tilt-based controls from scratch, using C# and **Arduino** scripts.

Orgmodoro

A minimal **Android** Pomodoro app | **Java, XML**

- Designed schematics and built an intuitive UI workflow with **XML** and **Android Studio**.
- Integrated multiple activities/windows to allow data transfer between background processes using **Java**.

JavaPaint

A full-featured paint program from scratch | **Java, Swing**

- Implemented and integrated **undo/redo stacks**, shapes, and toolbars with several data structures created all from scratch.
- Built a fully-featured drawing application using the **Swing API**, featuring options to save, program defaults, modifiers, and more.

Project Witchcraft

An arcade bullet-hell shoot'em up game | **Python, Pygame**

- Built a system that uses frame states to manipulates animations, fire rates, and beautiful bullet patterns.
- Implemented dynamic difficulty adjustments, high-score systems, and mathematically-refined controls for better user experience.