Rickson **Yang**

SOFTWARE ENGINEERING • UNIX ENTHUSIAST

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Skills

Languages　Java • JavaScript • TypeScript • Python • C# • HTML • CSS • SQL
Tools & Frameworks　React • Node.js • Express • Jetty • MongoDB • Android • Docker • Git • Emacs

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 by replacing a bulky refresh system with a granular cron system to trigger scheduled, targeted 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 easily resolve common support issues with SCORM modules
- Built and shipped a new Manager Notification System **within a week** in a small team with QA approval.
- Migrated message queues from **AWS SQS** to **Google Cloud Task** to improve architectural integration with GCP

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 courseware. Built a prototype that extracts paragraphs, tables, and MathJax from DOCX files using Java and **Apache POI**
- Quickly discovered and fixed more than **10 critical bugs** near version release
- 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

Gyroll ⌂

A 3D MARBLE TILT MAZE VIDEO GAME FEATURING A GYROSCOPE CONTROLLER | **UNITY, C#, ARDUINO**　　*October 2019 - November 2019*

- 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.

JavaPaint ⌂

A FULL-FEATURED PAINT PROGRAM MADE FROM SCRATCH | **JAVA, SWING**　　*April 2019 - July 2019*

- 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.

Orgmodoro ⌂

A MINIMAL **ANDROID** POMODORO APP THAT IMPROVES PRODUCTIVITY | **JAVA, XML**　　*May 2019 - June 2019*

- 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**.

Project Witchcraft ⌂

AN ARCADE-LIKE BULLET-HELL SHOOT'EM UP VIDEO GAME | **PYTHON, PYGAME**　　*May 2018 - June 2018*

- 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.

Education

University of Waterloo
Waterloo, Ontario, Canada

SOFTWARE ENGINEERING　　*2019 - 2024 (Expected)*

- Candidate for BSE with President's Entrance Scholarship.