Ri Xin **Yang**

Software Engineer

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Skills

Languages Python • Javascript • Java • C# • HTML • CSS • SQL

Tools & Frameworks Vue.js • React • Node.js • Electron • Cypress • MongoDB • Docker • JIRA • TM4J • Emacs

Experience

DigitalEd

Waterloo, Ontario, Canada

Fullstack Developer | **Java, JSP, Vue.js, Cypress, PostgreSQL** *May 2020 - August 2020*

- Used **Vue.js** and **Java** with **Apache Struts** to modernize a monolithic legacy codebase for the Möbius courseware.
- Did over **70%** of the foundational research tasks for a document importer that converts DOCX files into interactive lessons in the courseware. Created an early-demo that extracts paragraphs, tables, and MathJax using Java and **Apache POI**.
- Quickly found and fixed more than **10 critical bugs** near version release.
- Took initiative to create utility **Docker** scripts, improving engineering workflow by reducing required commands typed from **9** to **1** line.
- Took initiative to automate manual tests using **Cypress**, reduced relative testing time by **80%**.
- Executed and finished over **30%** of the total **1800+** manual test cases on TM4J during version release.

Projects

Sagacity [Hack the North 2019 Finalist]

A web-app that enhances hand-written notes with OCR and NLP | **Node.js, MongoDB, GCP** *September 2019*

- Placed **within the top 12 out of 375+ teams**, judged in terms of wow factor, technical difficulty, originality, and design.
- Generated relevant text around keywords to enhance notes by accessing NLP and OCR models via **Node.js** and **MongoDB**
- Used and integrated an early access build of **GPT-3** for NLP from OpenAI, acquired from open source.

Gyroll

A 3D Marble Tilt Maze video game featuring a gyroscope | **Unity, C#, Arduino** *October 2019 - November 2019*

- Built an Arduino controller and integrated angular/tilt-based controls with **C#** and **Arduino** scripts.
- Implemented game object behaviours such as turrets, spike balls, and randomly generated spawn points within C#.

JavaPaint

A full-featured paint program made from scratch | **Java, Swing** *April 2019 - July 2019*

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

Orgmodoro

A minimal **Android** Pomodoro app that improves productivity | **Java, XML** *May 2019 - June 2019*

- Designed schematics and built an intuitive UI 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*

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

Resonance

A modern and aesthetic music player revolved around playlists | **Vue.js, Electron** *September 2020 - Present*

- Utilized **Vue** components and **Electron** event emitters to control the playlist and music player throughout the program hierarchies.
- Created a menubar from scratch using Vue.js and Electron, providing thematic appearance and better user experience.

Education

University of Waterloo

Waterloo, Ontario, Canada

Software Engineering *2019 - 2024 (Expected)*

- Candidate for BSE with President's Entrance Scholarship.