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, POSTGRESSQL**
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**

- 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**

- 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**

- 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**

- 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**

- 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**

- Utilized Vue components to control the music player and playlist queue through the hierarchy of the UI.
- 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.