

# Ri Xin Yang

SOFTWARE ENGINEERING | FULLSTACK DEVELOPER | OPEN-SOURCE ENTHUSIAST

✉ [ri.xin.yang@uwaterloo.ca](mailto:ri.xin.yang@uwaterloo.ca) | 🏠 [rixinyang.me](https://rixinyang.me) | 📱 [MatoPlus](#) | [MatoPlus](#)

## Skills

**Languages** Java • Python • C/C++ • C# • JavaScript • HTML • CSS • Arduino • Bash • SQL

**Frameworks** React • Vue.js • Bootstrap • JQuery • Node.js • JSP

**Tools & Technology** Firebase • Git • JIRA • GDB • SSH • Android Studio • Vim • Emacs

## Projects

### Gyroll [↗](#)

A 3D UNITY MARBLE TILT MAZE GAME FEATURING A CUSTOM GYROSCOPE ON AN 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#**.
- Enforced principals of agile development maximize productivity while working in a team.

### Sagacity (Hack the North 2019 Finalist) [↗](#)

A WEB-APP MADE WITH **NODE.JS** & **PUG** WHICH ENHANCES NOTES WITH OCR AND NLP TECHNOLOGIES

September 13, 2019 - September 15, 2019

- Placed **within top 12 out of 375 teams**, judged in terms of the wow factor, the technical difficulty, the originality, and the design.
- Generated relevant text around keywords to enhance notes by accessing NLP and OCR models within **MongoDB** via **Node.js**.
- Polished the front-end of the app with **Pug** to improve user experience.

### JavaPaint [↗](#)

A FULL-FEATURED PAINT PROGRAM MADE WITH **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 a toolbar via object-oriented principals.
- Efficiently handled interactions of the menu and toolbar by utilizing listeners for events, actions, and property changes.

### Orgmodoro [↗](#)

AN ANDROID POMODORO APP THAT IMPROVES PRODUCTIVITY, MADE WITH **JAVA AND XML**

May 2019 - June 2019

- Designed schematics and built an intuitive UI with **XML**, along with a settings menu containing timer and color scheme options.
- Integrated multiple activities/windows to allow data transfer between background processes.
- Utilized interactive push-notifications to indicate new states in the background, improving user interactions.

### Project Witchcraft [↗](#)

AN ARCADE-LIKE BULLET-HELL GAME MADE WITH **PYTHON/PYGAME**

May 2018 - June 2018

- Created a system that uses frame data to manipulates animations, fire rates, and advanced bullet patterns.
- Implemented real-time difficulty adjustments, high-score systems, and refined controls for better user experience.

## Experience

### DigitalEd

FULLSTACK DEVELOPER

Waterloo, Ontario, Canada

May 2020 - Present

- Used **Vue.js** and **Java** to modernize enterprise codebase for the Möbius courseware.
- Found and quickly fixed more than **5 critical bugs** near version release.
- Took initiative to provide team with new insights on implementing features as the document importer.

### WatLock - Student Design Team

UI DEVELOPER/DESIGNER

Waterloo, Ontario, Canada

September 2019 - Present

- Building a Martian airlock with more than 100 members to compete in the UBC Mars Airlock Challenge.
- Lead proposal to include the utilization of **Electron**, **React**, and **Redux** to build an intuitive UI for the airlock.

## Education

### University of Waterloo

SOFTWARE ENGINEERING

Waterloo, Ontario, Canada

2019 - 2024 (Expected)

- Candidate for BSE with President's Entrance Scholarship.