Ri Xin **Yang**

Software Engineering at the University of Waterloo

ri.xin.yang@uwaterloo.ca | rixinyang.me | MatoPlus | MatoPlus

Skills

Languages	Java • Python • C/C++ • C# • Ruby • JavaScript • HTML • CSS • Arduino • Bash
Frameworks	React • Redux • Electron • Pug • SQL • Bootstrap • JQuery • Node.js
Tools & Technology	Firebase • MongoDB • Git • Postman • GDB • UNIX • 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

WatLock, Student Design Team

Waterloo, Ontario, Canada

UI Developer/Designer — *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.
- Critiqued and designed UI layouts by actively participating in team meetings.

Waterloo Computer Science Club

Waterloo, Ontario, Canada

System Committee — *October 2019 - Present*

- Maintained a large infrastructure of Linux-based servers via **SSH** for over 300 active members.
- Fixed critical errors and warnings during remote on-call duties.

Education

University of Waterloo

Waterloo, Ontario, Canada

Software Engineering — *2019 - 2024 (Expected)*

- Candidate for BSE with President's Entrance Scholarship.