Eric Xu

e29xu@uwaterloo.ca github.com/ericx20 ericx20.github.io

Languages

JavaScript TypeScript Python C/C++ HTML CSS

Technologies & Tools

React Redux Node.js Vue Jest Git Django

Experience

Front-End Developer | Hemora Ltd. *Jan – Apr 2022*

- Created front-end for Hemora's flagship map app with **React** and **TypeScript**
- Implemented offline-first map editing with queueable network requests using **Redux**
- Built an interactive map editor UI around an **XState** state machine defining its behaviour
- Designed the company's logo, brand identity, website, and custom vector icons with **Figma**
- Maintained **Django** REST API with support for file attachments stored on Amazon S3

Software Developer | Molex Canada *May – Aug 2021*

- Created a web app for configuring motor/sensor controllers used in automated assembly lines
- Used **Vue** and **TypeScript** to deliver a more user-friendly and responsive UI
- Maintained **Vue** web app for remotely configuring industrial automated systems
- Wrote unit tests with **Jest** and End-to-End tests with **Gauge** and **Python**

Projects

Virtual Yearbook *2021*

- Developed a web app for signing digital yearbook pages amid the COVID-19 pandemic
- Built **Node.js** back-end using **Express.js** for endpoints and **MongoDB** database for yearbook pages
- Established a **REST API** that supports CRUD operations on yearbooks and shareable yearbook codes
- Implemented canvas undo/redo in **JavaScript** with undo and redo histories

Braille Printer *2020*

- Constructed proof of concept for affordable braille printer, **80% cheaper** than commercial options
- Designed braille printing mechanism and programmed a hardware API in **Python**
- Collaborated remotely with a team of 6 students using **Git** version control

5x5 Rubik's Cube Solving Robot *2019*

- Engineered and programmed an original robot that solves the 5x5 Rubik's cube
- Constructed a novel mechanism that turns any layer of the cube with minimal servo motors
- Wrote a **Python** script to translate generated solutions into motor movements specific to the mechanism
- Employed **OpenCV** image recognition to scan the colours of the cube's stickers

Achievements

Waterloo Canadian Computing Competition (Senior Level) *2020*

- Achieved **Top 4%** out of 2827 competitors

ECOO-CS Programming Contest *2020*

- **First Place** in the Dufferin-Peel Catholic District School Board

Education

Bachelor of Software Engineering | University of Waterloo *2020 – 2025*

Interests

Competitive speedcubing, building robots, composing music