Eric Xu

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Languages

`JavaScript` `TypeScript` `HTML` `CSS` `Python` `C/C++`

Technologies & Tools

`Vue` `Jest` `Node.js` `Express.js` `MongoDB` `Git`

Experience

Frontend Web 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 than previous implementation
- Maintained complex **Vue** web app for remotely configuring industrial automated systems
- Wrote unit tests with **Jest** and **TypeScript**, and End-to-End tests with **Gauge** and **Python**

Graphic Designer | HID Technologies   *Sept – Dec 2020*
- Designed logo, illustrations and packaging using **Adobe Illustrator** for ergonomic keyboard company
- Designs featured on keyboard circuit board, stickers, packing tape and company website
- Gained experience freelancing graphic design work and proposing ideas to potential clients

Projects

Virtual Yearbook   *2021*
- Developed a web app for signing digital yearbook pages amid the COVID-19 pandemic
- Built **Node.js** backend using **Express.js** for endpoints, featuring **MongoDB** database for yearbook pages
- Established a **REST API** that supports CRUD operations on yearbooks and shareable yearbook codes
- Implemented canvas undo/redo from scratch in **JavaScript** using stacks to store undo and redo histories

Braille Printer   *2020*
- Constructed proof of concept for affordable braille printer, **6x 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 on all 6 axes of the cube with just 4 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 with a score of 37/75 points

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