Eric Xu

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Languages: JavaScript TypeScript HTML CSS Python C/C++ Ruby

Technologies: React Redux Vue Svelte Node.js Jest Git Rails Express

Experience

Capital One Canada | Front-End Software Engineer   *Sep 2023 – Dec 2023*
- Improved screen reader and keyboard support for homepage with **40,000** daily visitors using **JavaScript** and **HTML**
- Built 5 foundational components for the company's next-generation **React** component library with **TypeScript**
- Implemented accessible Modal Dialog with systems for limiting screen reader and keyboard interactions within modal

Vidyard | Software Developer   *Sep 2022 – Apr 2023*
- Worked on the Onboard team to improve the new user experience on Vidyard's sales video platform
- Implemented an overlay with **Vue** to guide users to settings page, helping **14%** more users correctly setup video settings
- Fixed Chrome extension bug causing users to record multiple videos at once, saves **330,000** redundant clicks per month
- Maintained a **Ruby on Rails** back-end and migrated the **SQL** database to drop obsolete data

Hemora Ltd. | Front-End Developer   *Jan 2022 – Apr 2022*
- Designed and built the entire front-end of Hemora's flagship map app with **React** and **TypeScript**
- Implemented an offline-first map editor for solar technicians with queueable network requests using **Redux**
- Constructed an interactive map editor UI controlled by an **XState** state machine to guarantee expected UI behaviour
- Designed the company's logo, brand identity, website and custom icons with **Figma**

Molex Canada | Front-End Software Developer   *May 2021– Aug 2021*
- Created a web app in **Vue** and **TypeScript** for configuring devices that control automated assembly lines
- 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

CrystalCube☒   *2023 – Present*
- Invented an online tool to train Rubik's Cube skill using **React** and **TypeScript**, endorsed by a world-class speedsolver
- Wrote and optimized a DFS algorithm to find the best solutions for part of the cube **34x faster** than its competitor
- Pioneered the first 3D cube visualizer for highlighting incorrect pieces with **Three.js**

AlgDB☒   *2023 – Present*
- Developed full-stack **Next.js** web app for centralized Rubik's Cube algorithm database with a team of 10 engineers
- Implemented **SSO** authentication using NextAuth and Prisma with a custom OAuth provider for World Cube Association

ZZMethod.com☒   *2023 – Present*
- Established a new **Next.js** documentation site for learning Rubik's Cube technique from beginner to world-class level
- Implemented interactive 3D visuals and wrote **16,000+** words of high-quality articles with a team of 3 experts

Virtual Yearbook☒   *2021*
- Created a web app with **Svelte** for signing digital yearbook pages via shareable links
- Implemented a canvas with adjustable brush size & colour, undo/redo and image export using **JavaScript**
- Built **Node.js** back-end with **Express.js** for endpoints and **MongoDB** database

Braille Printer☒   *2020*
- Led a team of 6 students to build a working proof of concept for an affordable braille printer
- Built printing mechanism with Mindstorms robot kit, controlled by **Python** script to convert text into braille hole punches
- Minimized the cost of the prototype to be **80% cheaper** than commercial braille printers

Education

University of Waterloo | Bachelor of Software Engineering   *2020 – Present*
- Executive for UWaterloo Rubik's Cube Club   *2024 – Present*