

# ZHUOXIANG (SAM) XIE

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## EDUCATION

Bachelor of Chemical Engineering, McMaster University, Ontario, Canada

Jun 2019

## LANGUAGES, FRAMEWORKS & TOOLS

JavaScript, Python, Java, C, jQuery, HTML, CSS, React.js, Redux, Redis, PostgreSQL, MongoDB, Node.js, Express.js, D3.js, Jest, Git, AWS EC2

## PROJECTS

Big-O Simulator (React.js, D3, Redux) [Demo](#)

- Visualizing the time complexity of different sorting algorithms using frontend frameworks Redux, React.js integrated with D3.js
- Reconfiguration of sorting algorithms based on React Hook rendering pattern to generate the corresponding automation behaviours

Irrigation Panel (React.js, Node.js, MongoDB, Google Maps API) [Demo](#)

- Utilization of multiple 3<sup>rd</sup> party APIs, OpenWeatherMap API, Google's Maps JavaScript API and Stormglass Marine Weather API
- Optimized the asynchronous feature of JavaScript in integrating large geolocation JSON file with Google Maps JavaScript API to produce dynamic weather predicative zones using wind direction
- Forecasted weather condition 4 hours ahead of time with an average 15% increase on prediction accuracy

Physicians Talking to Patients (Node.js, Socket.io, Express.js, PostgreSQL)

- A web-based tool designed for enhancing the remote communication between physicians and patients while enabling users from both ends to keep track of diagnosis/prognosis information through an organized format
- Database architecture design with 6 data tables using PostgreSQL
- Practiced authorization and security design using express-session in the application to improve its reliability and to protect users' personal data
- Implemented live chat/video features to enhance the quality of interaction between doctors and patients

The Voting App (Node.js, Express.js, D3, MongoDB)

- An application that can track info such as polling number, voting record and personal id
- Database schema setup using Mongoose with the aid of JavaScript based back-end tools
- Data visualization using D3, displaying info such as voters' age and demographic groups

## EXPERIENCE

### Web Developer

*LineDots Web Development* (Open Source and Freelance Projects), Richmond Hill

May 2019 - Current

- Web design for H&L Premium Auto Service's homepage and portfolio page for university students
- Offered mobile compatible and responsive web design to optimize user experience
- Application deployment and cloud computing platform AWS configuration (mainly EC2, JavaScript SDK, Secret Manager, System Manager)

### Engineering Project Coordinator (Coop Position)

*Halton Region*, Oakville

Jan 2018 – Dec 2018

- Review engineering drawings, single line diagrams, PFD, and P&ID
- Electrical I/O configuration and process control signal & interlock hierarchy validation