

Chuntong (Tracy) Gao

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EXPERIENCE

Royal Bank of Canada

Toronto, Canada

Front-End Software Engineer

Jan 2020 - May 2020

- Built a web code editor with **React** and **TypeScript**, used by 5000+ developers across the company to conduct code review and edit code online.
- Developed a parser to support in-editor Markdown preview and syntax highlighting with a bundle size 300% smaller than counterparts, published as an NPM package which received 50 downloads/week.
- Enhanced the editor's **security** by addressing **XSS** and **CSRF** vulnerabilities.
- Wrote unit tests with **Jest** and **Enzyme** with 90% coverage and integration tests with **Mocha** and **Chai** to test the editor and the parser together as a React component.
- Automated front-end **CI/CD** with **Travis CI**, which saved 2 hours of manual deployment per iteration.

Max Planck Institute for Software Systems

Kaiserslautern, Germany

Front-End Software Engineer

May 2019 - Aug 2019

- Built a **React** Single Page Application that allowed a virtual robot to learn natural language commands via user definitions.
- Designed **REST APIs** and implemented **HTTP** requests with **AJAX** and **Axios** to send user commands and receive interpretations.
- Saved 3 seconds per HTTP request by caching interpretations and combining requests where possible.
- Developed **Redux** middlewares to transform **JSON** interpretations into robot animations and used **three.js** to render the animations.
- Implemented 3D robot shapes and animations with **three.js**, allowing the user to provide a definition by manipulating robot motions if no interpretation is available.

EDUCATION

University of British Columbia

Bachelor in Computer Science

Sept 2017 - May 2021

GPA: 94/100 • Trek Excellence Award (2018/2019) • Major Entrance Scholarship (2017/2018/2019)

PROJECTS

Bloggy

- Launched a blog-sharing platform and deployed to **AWS** to leverage cloud services, reducing server costs by 80% and enabling the server to auto-scale.
- Developed a Single Page Application with **TypeScript**, **React** and **Redux** to allow bloggers to post blogs and manage comments, and allow visitors to read blogs and post comments.
- Implemented **RESTful microservices** with **Node.js**, **Express.js**, **TypeScript** and **MongoDB**, which served 100 users with no downtime for 3 months while storing 1000 articles and 2000 comments.
- Implemented authentication and authorization as a **microservice** with **JSON Web Token**, which frees the server from storing session information and saves storage costs by 30%.

Personal Website (<https://cgao.info>)

- Built a personal website to showcase projects and technical blogs, which has received 20,000 visitors.
- Used **React** and **TypeScript** to implement dark mode, image lazy loading, search by topic or date, read progress indicators, transition animations and mobile compatibility.
- Developed a **CLI** tool in **Node.js** to automatically transform Markdown blogs into React components.

SKILLS

Languages: JavaScript (ES6), TypeScript, Java, HTML5, CSS3, C, C++, Bash

Front End: React, Redux, Vue, Webpack, Babel

Back End: Node.js, Express.js, Spring Boot, REST, JPA/Hibernate, Maven, SQL, MySQL, MongoDB

Testing: JUnit, Postman, Selenium, Mocha, Chai, Karma, Jest, Enzyme

CI/CD: Git, Travis CI, Jira