

Zhenghao He | Software Engineer

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Technical Skills

- **Languages:** TypeScript, JavaScript, Python, HTML, CSS, C++, C, OpenGL ES, MATLAB, \LaTeX , SQL, Bash
- **Web Development:** React, React Query, Redux, Webpack, Babel, Node.js, GraphQL, WebGL, Gatsby.js, Firebase, AWS Amplify, Storybook, styled-components, Algolia, Less, Bootstrap, jQuery, Cypress, Jest, Mocha

Work Experience

- **Senior Software Engineer**, Instacart Inc. *Vancouver, Canada June 2021 - Present*
 - Joined the Pick-up team and worked on the Retailer Platform Portal - an enterprise dashboard where the retailers manage their catalogs, pick-up staffing and scheduling, as well as to view analytics around various business metrics, built with an array of technologies: **TypeScript, React, Styled-Components, GraphQL**, and **Apollo**
 - Led a team of 3 engineers to build a robust test suite by incorporating up-to-date test tooling - **Jest, React Testing Library, Cypress** while rewriting the legacy codebase from **React 15** to **17** to improve the developer experience and cleaning up the tech debt, resulting in total bundle size decreased by 35% and client error rate decreased from 9% to 0.1% so the team could support future initiatives more confidently and scalably
- **Front End Engineer**, Amazon Web Services, Inc. *Vancouver, Canada June 2020 - May 2021*
 - Joined AWS IoT team, and worked on migrating a legacy **Angular** monolithic codebase into multiple **React** packages owned by separate service teams with split pipelines and deployment bundles by adopting a **multi-tenant, micro-frontend architecture**
 - Independently developed and delivered 3 different modules in AWS IoT Console with scalable, high quality and well-tested (90% test coverage) code written in **TypeScript** and **React** with an array of technologies such as **Redux, React Query, Single-spa, Jest, Cypress, Formik, React Testing Library**
 - Took full ownership for everything I built from end to end - including building full continuous delivery **AWS CDK pipelines** along with various AWS infrastructures, implementing alarmed canaries with **Puppeteer** to monitor and protect user experience, and participating in an oncall rotation to perform maintenance and operational tasks
 - Developed and maintained an internal **headless UI library** with **TypeScript, React, Storybook** that are extensible to all customer use cases and have been adopted by 3 tenant teams, 10 developers within the organization, resulting in de-duplicating network requests, reducing loading time by 50%, and dropping lines of code by 35%
- **Software Engineer**, Arista Networks, Inc. *Vancouver, Canada Nov 2019 - May 2020*
 - Collaborated with a team of 7 engineers to build an upcoming new product UI: CloudVision Topology, which monitors data center networks' hierarchy and performance by using **TypeScript, React, Less.js, WebSockets**
 - Independently developed the first custom **ESlint plugin** on our team, by exploring **abstract syntax trees (AST)** in **JavaScript**, to enforce our own conventions on import statements with autofix, which has been integrated into the code review build system used by the team
- **Software Engineer Intern**, Arista Networks, Inc. *Vancouver, Canada Sept 2018 - Dec 2018*
 - Worked on CloudVision, a single-page web app written in **JavaScript, React, Redux, Less.js, WebSockets**

Recent Projects and Open Source Contributions

- **zhenghao.me** *May 2020*
 - Designed and built my own blogs by following the **JAMStack** architecture, using **React, Gatsby.js, GraphQL, Styled-Components**, served by **Netlify** for continuous deployment
- **Real-Time 3D Graphics with WebGL** *Feb 2019*
 - (<https://github.com/PacktPublishing/Real-Time-3D-Graphics-with-WebGL-2/pull/6>)
 - Fixed bugs related to incorrectly calculated surface normals and buffer-bindings, and refactored part of the code base from a **WebGL2** textbook's GitHub repository

Education

- **Bachelor of Science** in Computing Science *Sept 2016 – Sept 2019*
Simon Fraser University, BC, Canada