

# Sean Zhang

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## SKILLS

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**Languages:** Python, TypeScript, JavaScript, C, C++, Rust  
**Tools & Frameworks:** React.js, Next.js, Node.js, Docker, MongoDB, Jest

## EDUCATION

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**University of Waterloo** Sep 2019 - Apr 2025  
*Bachelor of Computer Science*

## EXPERIENCE

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**Vivid Seats** Sep 2023 - Dec 2023  
*Software Engineer Intern*

- Improved Google web vitals scores on over **65,000** pages by identifying and resolving unexpected layout shifts on [vividseats.com](https://vividseats.com) using **Next.js** and **TypeScript**.
- Increased Gross Order Value (GOV) by over **\$3 million** by converting location-based suggestions to render server-side using Next.js.
- Reviewed and implemented unit tests using **Jest** and **React Testing Library**, increasing test coverage by **1%**.

**Cynorix** Jan 2023 - Apr 2023  
*Software Developer Intern*

- Cut development time for 2FA file decryption by **20%** by extracting stateless business logic from **React.js** components.
- Increased customer conversion by **over 5%** by improving the reliability of saved payment tokens recieved by the **Stripe API**.
- Integrated single sign-on into Cynorix's filesharing product using **Google Auth API**.

**Lambdus** Sep 2021 - Aug 2022  
*Software Engineer and Co-founder*

- Architected a web app using **Next.js**, **Express.js**, and **MongoDB** to make animating more accessible to individual animators.
- Containerized application using **Docker**, enforcing consistent deployment behaviour across different environments.
- Pitched idea to a panel of venture capitalists and judges with varying technical backgrounds at the **semi-finals** of Velocity \$5k pitch competition.

**Genesys** May 2020 - Aug 2020  
*Quality Assurance Intern*

- Reduced ticket creation time by **over 70%** by creating a program to bulk create Jira tasks using **Python** and **Jira REST API**.

## PROJECTS

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**Research Assistant** Working on light transport algorithms under Prof. Toshiya Hachisuka  
**Fluid Simulation** 🌐 Navier-Stokes fluid simulation that is numerically stable using **JavaScript**.  
**Ray Tracing** Implemented a renderer from scratch based on ReSTIR paper using **Rust**.  
**Path Tracing** 🌐 Created a small path-tracer using Metal GPU compute shaders and **C++**.