

# Calvin Liu

Software Developer · Systems Design Engineer · Student

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## SKILLS

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Languages	Java, Kotlin, Javascript, C++, HTML/CSS, Git
Frameworks/Libraries	Node.js, React.js, Express, PostgreSQL, MongoDB
Tools	REST, GraphQL, Heroku, Github Actions

## EDUCATION

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University of Waterloo — BAsC. in Systems Design Engineering (Co-op) 2020 - 2025

## PROFESSIONAL EXPERIENCE

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Hannah's Heart — Software Developer (Volunteer) JUN 2021 - Present

- ❖ Designing an Android app to increase the outreach of mental health resources in Ontario
- ❖ Creating a backend REST API with Node.js and PostgreSQL with login and storage functionality

Score Media and Gaming Inc. — Android Developer Intern JAN 2021 - APR 2021

- ❖ Improved user experience by developing new features on the ScoreBET app in Kotlin and GraphQL, with 100% unit test coverage using JUnit, Robolectric, and Mockito
- ❖ Addressed regular production bugs and streamlined existing codebase, using Jira and CI/CD pipelines
- ❖ Gained experience in agile development practices and collaborated regularly with other developers, designers, and product managers to create effective and practical software solutions

## PERSONAL PROJECTS

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### Memorybee (Node.js, React.js)

- ❖ Developed an auto-generating flashcard website that uses word definitions and usages from WordsAPI
- ❖ Created a backend using PostgreSQL for storage and JWT tokens for user authentication

### 8 Puzzle (Kotlin)

- ❖ Built an interactive 8 Puzzle game on Android with MVVM architecture and a Github Actions workflow
- ❖ Implemented the A\* algorithm to find an optimal solution to the 8 Puzzle

### Seam Carver (Java)

- ❖ Implemented seam-carving, a content-aware image resizing technique (*resizes images without distortion of important content*), by finding shortest directed paths using the topological sort algorithm

## OTHER EXPERIENCE

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Tech+ UWaterloo — Project Organizer DEC 2020 - Present

- ❖ Creating a more inclusive tech community at UWaterloo by planning events, increasing outreach to over 500 students, and designing resources to help underrepresented groups get into the tech industry

## INTERESTS

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In my spare time, I enjoy running, playing chess, reading books, and volunteering at local festivals.