

# Ethan Liu

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## EDUCATION

### University of Toronto

Bachelor of Arts in Computer Science, ASIP Co-op Program

Toronto, ON

Sep. 2023 – present

**Cumulative GPA:** 3.97/4.0

**Relevant Coursework:** Software Design, Data Structures, Algorithm Analysis, Discrete Mathematics

## EXPERIENCES

### Full Stack Developer

Sep. 2024 – Present

Courseography - University of Toronto

Toronto, ON

- Developed a server-side web application, collaborating closely with a team of 3, ensuring effective communication between us and the project manager.
- Investigated and resolved SQLite database parsing issues, enabling accurate retrieval of over 5500 missing entries.
- Improved front-end efficiency with Webpack, reducing page load time from 20ms to 2ms on average.
- Enhanced user interface designs using React and unit tested with Jest and React Testing Library, improving user data retrieval efficiency.
- Refactored route controllers in Haskell in the back-end, transitioning the project to a modular MVC architecture, increasing code scalability and maintainability.
- Participated in weekly stand-up meetings to share progress, new learnings, and challenges faced, contributing to effective sprint planning and delivery.

## TECHNICAL SKILLS

**Languages:** Python, Java, Javascript, HTML, CSS, Haskell. Entry-level in Ruby, Kotlin

**Frameworks:** React, Webpack, Vite, Jest, React Testing Library, Swing, JUnit, Entry-level in SpringBoot, Happstack, RoR

**Developer Tools:** Git, Postman, SQLiteStudio, Figma, Terminal, VS Code, Pycharm, IntelliJ IDEA

## PROJECTS

### Personal Portfolio | React, Vite, GSAP, Paper, Figma

Oct. 2024 - Present

- Applied animation techniques such as scroll trigger using GSAP for an interactive experience.
- Utilized Vite for code-splitting and efficient asset bundling, reducing initial load time and enhancing front-end responsiveness.
- Leveraged Three.js and Web Audio API to add dynamic visuals and music interaction to create an unique audiovisual experience (in progress).

### Automated Instagram Bot | Python, Instagram Graph API, requests, schedule

Jun. 2024 - Jun. 2024

- Designed and implemented a Python bot that performs automated tasks on Instagram daily.
- Utilized Instagram Graph API with Requests and Schedule Python modules for automation, eliminating most manual effort.
- Built features that calculates the API access expiry date, allowing user to refresh tokens with a single click.

### Supermarket Management System | Java

Apr. 2023 – Jun. 2023

- Designed and developed a management simulation in a team of 3, enabling users to add or purchase items from shopping carts and admins to manage the inventory.
- Applied OOP concepts, data storage, retrieval, manipulation, and file I/O, resulting in a robust management system.
- Collaborated in all development stages including planning, designing, implementing and testing, leading the project to be successfully completed 2 days ahead of schedule, meeting 100% of the project requirements with no errors.

### Nonogram Puzzle | Java, javax.swing, javax.sound

Jan. 2023 - Jan. 2023

- Created a replicated Nonogram puzzle mini game in Java, using bit maps as the core game mechanic.

- Implemented an interactive user interface and visualization using javax.swing GUI, improving the visual appeal and usability of the game.
- Composed and integrated background music using javax.sound library, adding an immersive auditory element to the game experience.

#### **Music License Marketplace** | *React, Tailwind, Vite, RoR*

In progress

- Developing a full-stack website to streamline my beat-leasing process, while enhancing user experience and operational efficiency.
- Implementing features for content creation, secure transactions, and potentially AI integrations for musical analysis.

#### **Quibbly** | *Next, Tailwind, Vite, RoR*

In progress

- Building a full-stack rental platform to improve design, speed, and affordability for student renters.
- Collaborating with team members to design a scalable and efficient architecture, ensuring optimal performance and maintainability.

### ADDITIONAL EXPERIENCE

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#### **Fencing Coach Assistant**

Feb. 2019 – Aug. 2019

*Lincoln Fencing Club*

*Toronto, ON*

- Mentored and co-coached beginner classes of up to 10 students and developed their interest in fencing.
- Taught 5 students in private sessions in order to improve their mental and technical skills.
- Collaborated with students and incorporate their feedback to bring a positive learning environment.

### EXTRA-CURRICULAR ACTIVITIES

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**Awards:** Dean's List Scholar 2023-2024, Paul Higgins Musical Excellence Award 2022 - 2023, Ontario Winter Games Bronze 2020, Ontario Provincial Youth Championships Gold, May 2019

**Clubs:** Member of AYJ Jazz Band, Orchestra, Symphonic Band, UofT High Performance Fencing Club