

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.
- Reduced page load time by 115ms by minimizing bundle sizes and optimizing asset management for improved responsiveness.
- Enhanced user interface designs using React and unit tested with Jest and React Testing Library, improving user data retrieval efficiency.
- Refactored route controllers in Happstack, 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, Ruby. Entry-level in Kotlin.

Tech Stack: React, Webpack, Vite, Jest, React Testing Library, Swing, JUnit, Happstack, MongoDB. Currently studying RoR, SpringBoot.

Tools: Git, Docker, Postman, SQLiteStudio, Figma, Terminal, VS Code, Pycharm, IntelliJ IDEA.

PROJECTS

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

Oct. 2024 - Present

- Built a portfolio with React and 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.
- Leveraging Three.js and Web Audio API to add dynamic visuals and music interaction to create a unique audiovisual experience (in progress).

Quibbly | *Next/React, Tailwind, RoR, OSMPythonTools, pandas, OpenAPI, Docker, Kamal*

Sep 2024 - Present

- Building a full-stack rental platform to improve design, speed, and affordability for student renters.
- Utilized OpenAPI to standardize route management and data schemas, ensuring seamless integration and future scalability.
- Developing a secure and scalable back-end in Ruby on Rails, with a focus on authentication and security using Devise and Devise-jwt, and ensuring reliability through RSpec testing (in progress).
- Integrating server infrastructure on Ubuntu and implementing cloud storage solutions using services such as Amazon S3, for reliable data backup (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 calculate the API access expiry date, allowing user to refresh tokens with a single click.

JAE Market | *Java*

Apr. 2023 – Jun. 2023

- Designed and developed a back-end only management system 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.

ADDITIONAL EXPERIENCE

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

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