Lucas Liu

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EDUCATION

University of British Columbia   **April, 2026**

*BA, Computer Science, Minor Mathematics, **3rd Year, GPA: 3.60***   *Vancouver, BC*

- Relevant Coursework: Software Architecture & Operating System(**C, ASM**), Computer Networking(**IT**), Software Construction(**Java**), Algorithms & Data Structure(**C++**), Relational Database(**SQL),** Matrix Algebra, Data Science(**Python, R**), Calculus III

SKILLS, SOFTWARE & CERTIFICATIONS

- **Languages:** Javascript/Typescript, Java, C++, C#, HTML/CSS, Python, Matlab, React, Next.js, MySQL, PostgreSQL, JSON
- **Skills:** Game Dev/Design, Full Stack, SaaS, Software Development, IT Support, DevOps, Project Management, OOP, Agile, .NET
- **Software:** Visual Studio/VS Code, Docker, Notion, Trello, IntelliJ, R Studio, Unity, Unreal Engine, Adobe Suite, Blender, Figma
- **Certifications:** Google IT Support Certificate, Google, Jan 2025

PROJECTS   Google Drive Portfolio

Worldbuilder.ai | Next.js, PostgreSQL, Prisma, Vector DB   **|Github|** **Sep 2023 – Present**

Fantasy World Generation SaaS

- Developed an **AI-powered** world-building SaaS using cutting-edge technologies such as **Next.js 15**, **React**, **Prisma**, **PostgreSQL**, and **Tailwind CSS**.
- Create custom fantasy **characters**, **cities**, **environments** and many more with future plans on implementing interactable maps.
- Implemented secure **user authentication** via Clerk, **RESTful APIs** for data operations, and Stripe for **subscription-based billing**.
- Scalable backend with **Pinecone vector database** for long-term memory retention and **Upstash Redis** for fast caching.
- Focused on creating an intuitive and interactive user interface leveraging the capabilities of the Next.js **App Route**r.

Millennium Line | C#, Unity, .NET   **|Github|** **Sep 2023 – May 2024**

2.5D Side Scroller Video Game

- 2D story driven side scroller game built using **Unity C#** which won **2024 Best Visuals Award** from UBC Game Dev
- Organized and stored inventory data for **15 unique items** using **optimized data structures** (e.g., structs, stacks, queues, dictionaries), enhancing **memory efficiency by 15%**.
- Applied **state management** techniques to track dialogue progress, player choices, and trigger appropriate events.
- Designed **2 dynamic levels** featuring animated environmental elements, including moving metros in background

SoGeo | Next.js, PostGIS, PostgreSQL, Node.js   **|Github|Devpost|** **Oct 2024 – Present**

Geolocation-based Social App

- Worked with 4 others in a 12 hour hackathon to build a **geolocation-based** social app using **TypeScript**, **Next.js**, and **PostgreSQL** with **PostGIS**, leveraging geospatial data to support location-specific features.
- Developed **RESTful API** with **Node.js** and **Express**, optimizing performance for location-based queries.
- Integrated **Google Maps API** and engineered interactive front-end components using **React** and **TypeScript**.

Clicker Empire | Java, JUnit, Swing, JSON   **|Github|** **Sep 2023 – Dec 2023**

- Developed an engaging clicker game using **Java Swing** for GUI, focusing on incremental gameplay mechanics.
- Implemented a save and load system using **JSON**, enabling **persistent game states** across sessions
- Conducted unit testing with **JUnit** to ensure code quality and reliability.
- Managed game timers and background tasks using **Java threads** or timers for a responsive gaming experience.

EXPERIENCES

UBC Game Development Club   **Sep 2022 – Present**

Team Lead   *Vancouver, BC*

- Leading a **team of 14 developers** to develop visually unique and impressive pixel art games using **Unity**.
- Developed *Millennium Line* which won **2024 Best Visuals Award** from UBC Game Dev
- Delivered **2 game prototypes** within **8 months** using **Agile methodologies** and **Trello**.
- Conducting code reviews to enforce best practices in **C#** and design patterns while managing a smooth workflow.
- Overseeing version control (Git) and **CI/CD processes** to streamline development and ensure stable builds

Tutor Podium   **July 2024 – Sep 2024**

Marketing Analyst   *Vancouver, BC*

- Conducted keyword research and implemented **SEO** best practices to enhance website visibility and search rankings.
- Conducted market research to identify trends, competitors, and target audience insights.
- Used **Figma** in designing and optimizing user interface for the Tutor Podium website.