

# Coleman Lai

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## Education

### BSc, Major in Computing Science

Sep 2023 – Present

Simon Fraser University, Burnaby, Canada | GPA: **3.98**

Dean's Honour Roll × 2, President's Honour Roll, SFU Open Scholarship × 3

## Projects

### Hermes | Hugging Face MCP Hackathon | React, TypeScript, Python, Node, Docker, MCP, PostgreSQL | [🔗](#) Jun 2025

- Programmed a [Model Context Protocol](#)-enabled tool that [automates asynchronous API calls](#) with configurable functions, simplifying API monitoring, data logging, and performance analysis through secure authorization steps
- Structured [adaptive API handling](#) in Python, including parsing of header tokens and complex user parameters
- Linked functions to SQL database operations, ensuring properly handled edge cases and data security

### Territory Ascent | Python, Pygame, Socket Programming | [🔗](#)

Feb – Apr 2025

- Built a Python multiplayer platforming game using [direct socket networking schemes](#) with Pygame
- Designed a [application-layer networking protocol](#) streamlined for low-latency response for over 6 players
- Devised optimizations to TCP package sending, allowing an [increase of over 15 FPS](#) with the same performance

### Project SPHENE (Most Original Hack) | DreamHacks | React, TypeScript, Node, OpenAI, MongoDB | [🔗](#) Mar 2025

- Created a [backend system utilizing AI agents](#) that cross-reference peer content and suggest missing material
- Designed a system to detect knowledge gaps and generate style-matched suggestions using the OpenAI API
- Utilized MongoDB to [securely store and organize user notes](#), allowing synchronization on the QuillJS text editor

### Be Square (Best AI Hack) | StormHacks | JavaScript, Node, OpenAI, Adobe API | [🔗](#)

Oct 2024

- Created an Adobe Express add-on, integrating [OpenAI's API](#) for element generation through natural language
- Set up over parametrized 12 function calls for [real-time natural language generation](#), integrating OpenAI API
- Engineered a WebSocket connection, linking server-side function calls to client-side element creation functions

### Origami Fractions | JavaScript, SVG | [🔗](#)

Jul 2024

- Implemented a web application calculating [progressive visualizations of two origami folding algorithms](#) to divide a square sheet of paper into user-specified fractions, assisting origami artists with precise folding steps
- Utilized SVG tools to create diagrams highlighting each folding step, making complex techniques accessible
- Applied [modular design techniques](#) to structure visualizations and algorithms for [reusability and versatility](#)

## Work Experience

### Website Enhancement and Administration | iListen Canada

Jul – Oct 2024

- Upgraded company website built on WordPress, ensuring [alignment with company values](#) and increasing appeal
- Constructed a well-documented maintenance document, containing results of a [needs analysis](#) of the site
- Achieved 99%+ Lighthouse scores across SEO, performance, and accessibility through targeted site optimizations

### Assistant Camp Coordinator | Children's Summer Camp at CCM Canada

Jun – Aug 2022

- Led a large group of children in activities including games and crafts through [clear, age-appropriate instructions](#)
- Wrote and taught lessons twice weekly, promoting [effective communication](#) and feedback-driven comprehension

## Skills

**Languages:** Python, JavaScript, TypeScript, HTML/CSS, C, C++, SQL, C#, R

**Programs/Tools:** Visual Studio, VSCode, Git, OpenAI API, MCP, Docker, PyTest, WebSocket, Unity, WordPress

**Libraries/Frameworks:** PostgreSQL, MongoDB, Node.js, React, TailwindCSS, ExpressJS

**Other:** Agile, Scrum, DevOps, DSA, CI/CD, Software Development Lifecycle (SDLC), Socket Programming