

VINCENT LIU

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EDUCATION

Simon Fraser University

BSc. Computing Science, 3.62/4.33 GPA

EXPECTED APR 2026

Burnaby, BC, Canada

- **Selected Coursework:** Data Structures and Programming, Database Systems, Web Development, Computational Data Science, Visual Computing, Geographic Information Science, Spatial Data Analysis/Modelling,

EXPERIENCE

Apple Inc. - Software Engineering Intern @ Maps

React, Redux, TypeScript, MapKit JS, Deck.gl

MAY 2024 - AUG 2024

Cupertino, CA, USA

- Integrated Apple's MapKit JS into Kepler.gl, an industry-leading **open-source** tool for geospatial analysis of large-scale data sets, enhancing it with advanced 2D-3D visualizations, split map views, and custom Apple-themed visualization palettes in **collaboration with design teams**.
- Developed and executed an integration plan to **refactor** existing mapping frameworks using the **adapter** and **object-oriented** design patterns, enhancing the **scalability**, **maintainability**, and **API extensibility** of the application.
- Managed weekly deliverables and presented the solution to Leadership, demonstrating **performance** improvements, enhancements to codebase **architecture**, and refined **visual design**.

PERSONAL PROJECTS

JOBJUG - 🐙

React, JavaScript, Tailwind, Python, Flask, OpenAI API, Gmail API, MongoDB

MAY 2024

StormHacks 2024

- Created a job application tracker that **utilizes AI** to automatically categorize job applications into their respective stages within their hiring processes.
- Implemented a dashboard that **automatically categorizes** and sorts job applications into three groupings, with each group representing a stage in the application process.
- Used the **Gmail API** to extract job application emails, and then provided them to the **OpenAI API** for **classification**.
- Built a **REST API**, using Python and Flask, to store users and their tracked job applications in a **MongoDB database**.

MOMENTS - 🐙

React, TypeScript, HTML/CSS, Tailwind, Leaflet, Node.js, Express, MongoDB

FEB 2024 - APR 2024

Simon Fraser University

- Collaborated with three others to create a geospatial journal application that provides interactive features to assist in self-reflection through the creation of geographic "memos".
- Employed the **Model-View-Controller design pattern**, to structure the front end into modular components.
- Utilized Leaflet to facilitate user interaction with **embedded maps**, allowing memos to be **geo-tagged** and **geo-spatially visualized** across **different views**.
- Interacts with a **REST API**, built with Node.js and Express, to store users and memos in a **MongoDB database**.

JAPANGO - 🐙

React, Tailwind, HTML/CSS, JavaScript, WebSockets, FastAPI, Python, Firebase

MAY 2023

StormHacks 2023

- Created a language-learning web application where users challenge each other to test their Japanese language proficiency
- Utilized WebSockets to implement **multi-session multiplayer**, allowing players to participate in **real-time** matches.
- Incorporated a **Firebase database**, in conjunction with a **REST API**, to manage user metrics and translation data

IUPAC DISCORD QUIZ BOT - 🐙

Discord.py, Node.js, Express, Python, JavaScript, MongoDB

SEP 2022

HackToSchool 2022

- Built a **Discord bot** that quizzes students on the IUPAC names of organic chemical compounds
- Created a **REST API** using Node.js and Express to store and retrieve quiz information and player metrics.
- Submitted the project **10 hours ahead** of schedule through effective **team programming**, **Git** usage, and **communication**
- Executed a spaced repetition algorithm, leading to an **improvement** in students' final grades by **up to 5 percent** when compared to those who did not make use of the bot.
- Achieved the **"First Place Overall"** award.

TECHNICAL SKILLS

Languages: Python, C/C++, HTML/CSS, JavaScript, TypeScript, SQL, MATLAB

Technologies/Frameworks: React, Redux, Deck.gl, Angular, Node.js, Express, MongoDB, Git, QGIS, ArcGIS Pro