

Alex Lee

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EDUCATION

- **University of Toronto** **GPA: 3.97/4.00**
Bachelor of Science in Computer Science, Minor in Mathematics *Sep 2022 - Jun 2026*
 - **Courses:** Software Design, Software Tools & Systems Programming, Data Structures & Analysis, Computer Organization, Theory of Computation
 - **Societies:** University of Toronto Machine Intelligence Student Team

SKILLS

- **Languages:** Python, Java, C, JavaScript, HTML/CSS, R, Bash
- **Frameworks and Tools:** Flask, SQLAlchemy, Git, Microsoft Azure

EXPERIENCE

- **Microsoft** Redmond, WA
Software Engineering & Product Management (Explorer) Intern *May 2024 - Aug 2024*
 - Designed and developed a customer support **AI** chatbot for a querying service keeping track of **100 billion+** certificates and secrets used across the company
 - Leveraged **Azure OpenAI** resources to create a **GPT-3.5**-powered solution, optimizing chatbot response latency to **<3 seconds**
 - Implemented **Retrieval-Augmented Generation (RAG)** to facilitate dynamic, up-to-date data retrieval using embedding models and vector search
 - Adjusted the granularity and chunking size of search indexes, improving the chatbot response accuracy by **~30%**

PROJECTS

- **Calculus Derivative Calculator** | *Python, HTML, CSS, JavaScript, Flask, MathJax* 📄 ↗
 - Capable of **differentiation with complete steps** and algebraic simplification, built **completely from scratch** without using any math-related libraries
 - Implemented in Python using binary expression trees and **self-designed recursive algorithms** for calculation, and the **shunting yard algorithm** for parsing mathematical expressions
 - Utilized MathJax for displaying visually appealing mathematical expressions in the frontend
- **KnowYourBias** | *Python* 📄 ↗
 - An **AI** web app that detects the political bias of the news article the user submits, and presents other articles on the same topic with different viewpoints
 - Used APIs from NewsCatcher and **Amazon AWS** for article search and keyword extraction
- **Jang-gi (Korean Chess)** | *Java* 📄 ↗
 - Implemented game logic leveraging the principles of object-oriented programming
 - Designed and implemented an easy-to-use graphical user interface utilizing Java Swing, allowing for a seamless user experience
- **Atlas News** | *Python, Flask, SQLAlchemy* 📄 ↗
 - A decentralized news website that allows users to stay up-to-date with events around the world complemented with a discussion forum
 - Managed database storing user and article data with SQLAlchemy and hosted website using Flask

ACTIVITIES

- **Inova Computer Association** Vancouver, BC
Executive Director *Sep 2021 - Jun 2022*
 - Led a team of 6 students organizing webinars about careers in technology, targeting local students
 - Received **70+** sign-ups for federal government-funded events featuring 5 guest speakers