

# JESSICA LUK

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## Education

### University of Waterloo

Bachelor in Electrical Engineering

Sep. 2023 – Present

Waterloo, ON

## Technical Skills

**Languages:** C, C++, Python, HTML/CSS, Vhdl

**Technologies/Libraries/Frameworks:** Azure SQL, React, Node.js, Express, MongoDB

**Tools:** VS Code, Microsoft Office, Azure AI, Github, Jira, Confluence, Figma, Photoshop

## Experience

### CIBC

January 2024 – April 2024

*Simplii Operations Analyst*

*Toronto, ON*

- Extracted and organized **2000+** client banking transactions from CIBC's KnowledgeShare database
- Developed prototypes to streamline daily banking operations, improving operations efficiency by **25%**
- Implemented credit and debit transaction protocols to manage client bank data, ensuring adherence to CIBC standards

### Microsoft (WE accelerate program)

January 2023 – April 2023

*Azure & Artificial Intelligence Fundamentals Project Team Member*

*Waterloo, ON*

- Built and implemented machine learning models using **Azure Machine Learning Studio**
- Developed a prototype for a financial savings application using Microsoft **Azure AI** and cloud computing tools
- Optimized computing resources using **Azure Virtual Machines** and processing **pipelines**

### Formula Electric

September 2023 – December 2023

*Electrical Engineering Designer*

*Waterloo, ON*

- Designed PCBs using **Altium**, improving electric car performance by **20%** and reducing energy consumption by **15%**
- Developed schematics and performed simulations to ensure reliability of PCB equipments

## Projects

### Bubble Mathics | MongoDB, Express, React, Node.js, Vite, Socket.io (PropelAuth Sponsor Award - HawkHacks)

- Engineered a **real-time MERN** stack math learning platform for kids with ADHD, featuring **socket.io** namespaces for dynamic multi-user interactions and **MongoDB Atlas** for scalable cloud-based data management.
- Integrated **PropelAuth** for secure multi-session authentication and used **npm concurrently** for parallel execution of Vite and Node.js.
- Deployed frontend with **Vite + React** on Netlify and backend with **Express.js** on Vercel, incorporating **Tailwind CSS** and **Framer Motion** for responsive, interactive UI.

### Financial Savings Coach App | Azure AI, Azure SQL

- Developed a finance application utilizing **Azure AI** to provide customized savings recommendations to users.
- Utilized Azure Cognitive Services and **Azure SQL** Database to analyze user spendings and store data in the **Cloud**.
- Aiming to help clients achieve savings goals and to improve financial well-being, resulting in positive user feedback and to further improve the application.

### Rewards Banking App | Python Jupyter, Excel

- Designed an app mockup user-interface design using Figma to optimize user experience
- Conducted thorough market research and optimized data using **Python** to optimize rewards program
- Won **first place** for best solution in CIBC's Simplii financial app case competition

### Minesweeper Game | C++

- Implemented a terminal-based **C++** minesweeper game with functions like Hide, Clean, Tag, & Restart
- Leveraged **data structures** like Arrays, Pointers, and **Dynamic Memory Allocation** for in-game functions
- Utilized searching/sorting algorithms that allow users to discover hidden targets

## Achievements/Awards

- **HackHawks Hackathon**– Won first place for Best Use of PropelAI out of 1000 hackers
- **CIBC Case Competition Winner** – Won the Simplii financial case competition for providing a new app prototype
- **Azure AI Fundamentals Certificate** – Learned how to use Azure machine learning & cloud computing tools
- **UWaterloo President's Scholarship** – Awarded for academic excellence
- **Ontario French Diploma** – Fluent in French via 12 years of French education