Jeffrey-Kai Li

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SKILLS

LANGUAGES

C++ • Python • Dart • Lisp/Scheme • Java • TypeScript • JavaScript • HTML/CSS

FRAMEWORKS

Flutter • React • Node.js • Express.js

SOFTWARE AND TOOLS

Git • GitHub • Firebase • Selenium • Windows • Unix • Bash • GoogleTest

ACHIEVEMENTS

Hack the North 2021
Winner of "**Best Blockchain Hack**" at Canada's largest hackathon with over **1500** participants.

Canadian Computing Competition 2022
Group 3 Honour Roll, placing in the **top 3%** out of **3000+** contestants.

Ontario Top Scholar 2022
Awarded to the graduating students with the **highest academic average** across the region.

hack::peel
Helped to organize a region-wide hackathon with over **100** participants and **$20,000+** in prizes.

President's Scholarship of Distinction
Entrance scholarship valued at **$2000**.

Collegiate Esports
Playing **competitive collegiate VALORANT** for University of Waterloo Gold.

EDUCATION

UNIVERSITY OF WATERLOO

BS in Computer Science
Sept. 2022 - Present | 3.94 GPA

Relevant Coursework: Object-Oriented Software Development, Elementary Algorithm Design, Tools and Techniques for Software Development

EXPERIENCE

HUAWEI | Software Developer

May 2023 – Aug 2023 | Markham, ON

- **Optimized multiple advanced graph algorithms** by designing and developing various classes that utilize **modern C++20 features**, **STL/Boost data structures**, and **effective object-oriented design principles**
- Implemented and extended a **research-based parallel graph algorithm** used to efficiently solve **complex FPGA routing problems**
- Wrote unit tests within **GoogleTest** that achieved **95%+ line coverage** for all newly developed code

PEBBLE SHORE TECHNOLOGIES | Software Intern

July 2021 – September 2021 | Toronto, ON (Remote)

- Developed and designed a **scalable full-stack Microsoft Teams application from scratch** within a **tight time frame**
- Created **multiple responsive and user-friendly tab applications** using **Typescript**, with **React** used for the front-end
- Designed and implemented an integrated chatbot using **Power Virtual Agents**
- Commended for an ability to solve **complex coding and design challenges**

PROJECTS

TWS - THE WOODLANDS SCHOOL APP

- Created an **official mobile application** for the Woodlands Secondary School
- App client created in **Flutter** with a **Cloud Firestore** scalable **NoSQL database**, integrated with **FlutterFire**
- Developed song request page using a **RESTful API** (**Spotify Web API**)
- Peaked **#70** in Education on the Apple App Store

EXER - CUSTOM BLOCKCHAIN-BASED CRYPTOCURRENCY

- Created a mobile application that paid users to walk in a custom cryptocurrency based on the **ERC20 blockchain**
- App client created in **Flutter** with a **Cloud Firestore** scalable **NoSQL database** and an **Express.js** backend to handle user transactions
- ERC20 blockchain deployed using **Ganache**, with **Web3.js/Truffle** used to interact with the blockchain
- Awarded "**Best Blockchain Hack**" at **Hack the North 2021**

MACHINE LEARNING FLAPPY BIRD

- Designed and developed a custom Flappy Bird game in **Pygame**
- Implemented a **neuroevolution algorithm** using **NEAT** to create an agent that can play the game perfectly (infinite score)
- Created in **Python** with an **object-oriented structure and design**

COMPETITIVE PROGRAMMING SOLUTIONS

- Repository of personal **C++** solutions to difficult problems, including those previously used at the **International Olympiad in Informatics**
- Use of various advanced algorithms and data structures, such as **string hashing, centroid decomposition, segment trees, matrices, and binary lifting**

GOOGLE MINESWEEPER BOT

- Script written in **Python** to automatically play Google's Minesweeper game, with **OpenCV and pytesseract** used to read the state of the screen