Jeffrey-Kai Li

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SKILLS

PROGRAMMING

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

FRAMEWORKS

Flutter • React • Node.js • Express.js

SOFTWARE AND TOOLS

Git • Firebase • Selenium • Windows • Unix • Unity (2D) • Microsoft Office

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.

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

EDUCATION

UNIVERSITY OF WATERLOO

BS in Computer Science
2022 - Present
96% Faculty Average

WOODLANDS SS

Mississauga, ON
Sept. 2018 - June. 2022
OSSD - Enhanced Learning Program

EXPERIENCE

PEBBLE SHORE TECHNOLOGIES | Software Intern

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

- Developed and designed a **full-stack Microsoft Teams application** for a startup
- Created tab technologies with **Typescript**, with **React** used for the front-end
- Designed and implemented a chatbot using **Power Virtual Agents**
- Worked in a **team environment** to complete weekly objectives ("sprints")
- Commended for an ability to solve **complex coding and design challenges**

WOODLANDS SS COMPUTER SCIENCE CLUB | President

Sept 2020 – June 2022 | Mississauga, ON

- Collaborated with club executives to provide weekly lectures to over **50 students** about various computer science topics, including **competitive programming, web development, game development, and cryptography**
- Taught and implemented competitive programming concepts in multiple languages (**C++, Python, Java**), including **graph theory, dynamic programming, and data structures**

PROJECTS

TWS - THE WOODLANDS SCHOOL APP

- Created an **official mobile application** for the Woodlands Secondary School
- App client created in **Flutter** with a **Cloud Firebase** 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 Firebase** 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 competitive programming 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**
- All solutions are implemented in **C++**

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