Lucky K.B. Kim

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EDUCATION

The University of Toronto. 2017-2022.
Bachelor in Applied Science in Computer and Electrical Engineering

SKILLS

Languages: Proficient: C/C++ , Python , Java. Prior Experience: Javascript, HTML, CSS, Verilog, Assembly. Fluent: Korean
Technologies: Git, Unix Shell, Springboot, Express, Node, Postgres, Mongo, FPGA, Unity, Matlab
Relevant Concepts: OOP, data structures, algorithms, multithreading, synchronization, machine learning models

WORK EXPERIENCE

Software Engineer - Caseware International Inc. 09.20 - 09.21

- Worked on a large database for improving throughput of datastreams for the client and server. Provided easy-to-use data for a variety of other microservices with the use of HTTP APIs, AWS services, and streams encapsulated with the Java Springboot framework. (Java Springboot, AWS)
- Architected and modified SQL relational databases to optimize for the company's workflow. (SQL)
- Developed a slack webhook for sending messages to the corresponding people when a pull request or other Github tasks were updated. (Python, Github, Slack)

PROJECTS

Software Developer - Signal Processing Educational Tool. 9.21 - Present

- Currently developing an educational tool to teach students signal processing concepts through sound waves and signals.
- With the use of QT and a signal processing library, we are developing a simulation with a GUI that shows the frequency and time domain of waves with live playback.
- Users can modulate the sound in real time while visualizing the signal itself. (QT, C++)

Software Developer - Food Detection and Classification. 3.20 - 4.20

- Produced a machine-learning algorithm that classifies pictures of food with the use of transfer learning of various convolutional neural networks.
- Revamped the algorithm to a region-based convolutional neural network so that our model can detect many foods in an item.
- Achieved an accuracy of 70%. (Python, Pytorch)

Software Developer - Basic Geographic Information System. 1.19 - 4.19

- Planned and created a multi-city map application with the OpenStreetMap API and the EZGL graphical interface library.
- Implemented Dijkstra's algorithm and optimized it using A* heuristics and applied it to improve the traveling salesman problem.
- Refined the salesman problem with multithreading. (C++)

Hardware Developer - Basic Platformer Game. 3.19

- Developed a basic outline of a platformer game with a partner with the use of the Intel software program, the Monitor Program, and an ARM processor chip, DE1-SoC.
- The game is compatible with the keyboard and flexible for further implementation. (Assembly, C)

Hardware Developer - Ping Pong Game. University of Toronto, 11.18 - 12.18
Through the Intel software program, Quartus, and an FPGA, DE1-SoC, a partner and I created a ping pong game consisting of multiple levels with varying levels of difficulty by creating a finite state machine through Verilog. (Verilog, Modelsim)