SEAN KIM

Toronto, Ontario

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Education

University of Toronto	Toronto, ON
Bachelor of Applied Science in Computer Engineering, Software	*Sep 2021 – Present*

- **cGPA: 3.85** / 4.0 | **Awards:** Dean's Honour List in All Semesters, Edward S. Rogers Sr. Admission Scholarship
- **Relevant Coursework:** Data Structures and Algorithms in C and C++ (OOP), Digital Systems (FPGA, Verilog), Computer Organization (ARM Assembly), Software Design and Communication (Designing a Map using C++)

Experience

UofTHacks	Jul 2022 – Jan 2023
Web Developer & Organizer	*Toronto, ON (Remote)*

- Contributed to the website and dashboard for the **Canada's first student-run** hackathon, UofTHacks X, serving over **600+** hackathon participants accessing the site
- Implemented an Atomic Design approach utilizing **React.js**, **Next.js**, and **stitches.dev**, resulting in a **20%** reduction in file size and improved organization of unnecessary components
- Collaborated with the design team to translate User Interface designs from **Figma** into functional, responsive components, ensuring a seamless experience for hackathon participants

Skule Commuter Students Directorship	Jul 2022 – Present
Webmaster Executive	*Toronto, ON (Remote)*

- Developed and launched the University of Toronto Engineering Community's website using **React.js** and **Redux**, with an estimated **400+** commuter students accessing the site
- Managed the full web development process, including design and implementation using **Figma**

Projects

Aazami | *Qualcomm Tiny ML Kit, Arduino Nano 33 BLE Sense, Edge Impulse, Neo Pixels*
- **MakeUofT 2023 Winner of Most Innovative Power Efficient Hack using Qualcomm Tiny ML Kit**
- Created an innovative voice recording device, utilizing **Qualcomm Tiny ML Kit**, **Arduino Nano 33 BLE Sense**, and **Neo Pixels**, to aid individuals with dementia, which captures and replays the last 10 seconds of audio upon recognizing the voice command, "I forgot," using a Machine Learning voice recognition system
- Conducted extensive Machine Learning training with **Edge Impulse** on the voice recognition system, totaling over **1 hour** and **27 minutes** of voice data, resulting in a **98.7%** accuracy rate

OTFMap (In Progress) | *C++, GTK, Glade, EZGL, OpenStreetMap API*
- Designed and developed a functional map application comparable to Google Maps using **C++** and **OSM API**
- Utilized customized structures with **C++ STL** databases, such as Vectors, and Maps, to store and manage large amounts of geographic data
- Refactored **1000+** lines of code to improve maintainability and readability of the repository
- Created a user-friendly interface using **GTK**, **Glade**, and **EZGL** library including night, subway, and bike modes
- Implementing optimal algorithms for path finding to ensure that the map efficiently operates under complex data sets

TrackTC | *React.js, styled-components, Node.js, Express.js, MongoDB, TTC API*
- Created a responsive and user-friendly web app that alerts commuters of potential TTC and bus delays via email reminders and real–time transit information to users
- Utilized **React.js** and **Express.js** to implement GET and POST requests for retrieving and displaying **TTC API** data

Technical Skills

Languages: C, C++, Python, HTML5, CSS3, JavaScript (ES6+), PHP, MATLAB
Fullstack: React.js, Next.js, Vue.js, Redux, SASS/SCSS, styled-components, stitches.dev, Node.js, Express.js, MongoDB
Hardware: SystemVerilog, ARM Assembly, Modelsim, Intel Quartus Prime, Breadboards/DE1-SoC Boards
Misc Tools: Edge Impulse, Git, GTK, Glade, Valgrind, NPM, VSCode, PyCharm, NetBeans, GitHub, Figma

Leadership

University of Toronto Engineering Outreach Office	Jun 2022 – Jul 2022
DEEP Summer Program Counsellor	

- Cooperated with graduate and upper-year students to mentor **20+** high school students in STEM fields such as Python Programming, Data Analytics, and Solar Cell Physics in a total of **106 hours** of class
- Encouraged students to pursue interests in STEM fields and provided information about careers in these areas