

Kyle Tan

k46tan@uwaterloo.ca | [linkedin.com/in/kyle-tan2061](https://www.linkedin.com/in/kyle-tan2061) | github.com/ktan46 | ktan46.github.io/me/

TECHNICAL SKILLS

Programming Languages: C/C++, Python, JavaScript, TypeScript, HTML, CSS

Developer Tools: Git, OpenCV, PyTorch, Firebase, Hugging Face, React, Next.js, Node, Langchain, OpenAI

INTERNSHIPS

Hatch Coding Web Application Developer

June 2023 - August 2023

Internship

Remote

- Developed educational web applications built using the Firebase, Express.js, and Node.js tech stack in Next.js.
- Deliverables are for non-software workers in a potential \$500,000 contract for construction firm EllisDon.

WE Accelerate Manulife Web App Project Member

May 2023 - August 2023

Internship

Waterloo, ON

- Received a **\$1000 award** for designing a **single page web app** using **REST APIs** with event driven architecture for trading stocks via **Finnhub API** and **Google Firebase**.

SIDE PROJECTS

Doc-GPT | *Python, Streamlit, GPT4All, Langchain, Google Firebase*

- Developed an offline AI powered information query web app using **GPT4All** that reads user inputted documents and hold conversations about them.
- Uses Google's **Flan T5** model hosted on **Huggingface Hub** and Langchain to pre-process, train on PDFs with a clean and simple UI using Streamlit.
- Implemented a **NoSQL database** which allows users to quickly and securely connect using **Google Authenticator** to access their PDFs from **Firebase's Cloud Firestore**.

Honk Stonks | *NodeJS, ReactJS, Google Firebase*

- Developed a modern stock trading visualizer tool using **ReCharts** with **NoSQL database** storage using Google Firebase to read and write to CSV files.
- Implemented a user authentication tool with Google Sign-in and **Firebase Authentication** for secure login.

NetHack | *C*

- Developing a 2D terminal text-based game using **NCurses library** in **C**.
- Utilizes principles of data structures, dynamic memory management practises and **heuristic** algorithms such as using dynamically allocated memory for level designs, **A-Star pathfinding algorithm** for realistic enemy movement.

EXPERIENCE

DeerHacks

April 2023

Extracurricular

Toronto, ON

- Participated in a competitive hackathon hosted by the University of Toronto.
- Developed an **Android app with Java** using **Google Maps API** to locate ice cream trucks **in real time** and predict future locations through crowd-sourced information stored on a **NoSQL database** powered by a **Google Firebase** cloud server.
- Implemented truck verification done using **computer vision** using a **Haar Cascade classifier** in **OpenCV**.

Hack the North

September 2021

Extracurricular

Waterloo, ON

- Participated in a competitive hackathon hosted by the University of Waterloo.
- Used Python to train a **convoluted neural network** on 2000+ images scraped from the web using the library **Beautifulsoup4** to detect abnormalities in x-ray scans using **PyTorch**.

EDUCATION

University of Waterloo

September 2021 – Present

Bachelor of Mathematics with Co-op

Waterloo, ON

- Double major in **Honours Computational Mathematics** and **Honours Combinatorics & Optimization**.