

Oditha Amarasinghe

416-858-9496 | ogamaras@uwaterloo.ca | Github | Personal Portfolio

Technical Skills

Languages and Technologies: C/C++, Java, JavaScript, Python, Next.js, React.js, Flask, Tailwind, Firebase, PostgreSQL, Node.js, LINQ.

Experience

UW Blueprint

May 2023 – Jan 2024

Full Stack Developer | React.js, Flask, PostgreSQL, REST API

Waterloo, ON

- Developed a robust platform to facilitate administrative operations for **Algoma's Children's Aid Society**, achieving enhanced efficiency through the migration of legacy spreadsheets and the implementation of advanced data organization features.
- Designed and implemented a robust **user search functionality** by seamlessly integrating custom endpoints into the internal API. Optimized data retrieval from hundreds of users through **Postgres** and engineered the front-end presentation of search results using **custom React components** and **useState** hooks for a dynamic and responsive user experience.
- Constructed a front-end skeleton for the user dashboard prioritizing **scalability**, thereby facilitating seamless integration of additional functionalities by future developers.

HealthCare Systems R&A

Jan 2023 – March 2023

Machine Learning Engineer | Python, Sklearn, SciKit, TensorFlow

GTA, ON

- Engineered an **interactive platform** utilizing a machine learning model self-trained to classify user movements, resulting in the achievement of a **project milestone** two weeks ahead of schedule.
- Implemented an algorithm for extracting and evaluating a set of new data features, resulting in a **40% improvement in the classification accuracy** of the model.
- Developed a **hybrid neural network architecture**, actively harnessing the potential of both LSTM and CNN layers, resulting in significant accuracy improvements across **all classes** of the data set.

Manulife

May 2022 – Sept 2022

Data Engineer | Python, Devo, LINQ, SQL

GTA, ON

- Effectively harnessed the Devo Platform to **filter and refine** extensive data logs, resulting in a notable **10% reduction** in redundant metric alerts.
- Constructed an **automation tool** for seamless data transfer between **AWS S3** and **Azure Blob storage**, ensuring the safety of **thousands of legacy data logs**.
- Refined the performance of the Devo platform by **30%** through optimized **LINQ scripting**.

Projects

UWNAV

Jan 2024

Next.js Tailwind | <https://github.com/odis43/uwnav>

- Currently developing a Next.js app which incorporates **Dijkstra's shortest path** algorithm to determine the most optimal route between classes on campus.
- Latest iteration of the algorithm delivers **precise node sequences** representing the optimal path from the initial to the destination node, accompanied by a **quantified weight** denoting the cumulative distance covered in meters.
- Executed **on-campus research** to map and construct a comprehensive graph illustrating the campus infrastructure, showcasing a hands-on approach to **data collection and analysis**.

Personal Blog

Dec 2023

React.js, Tailwind, Firebase | <https://github.com/odis43/blog>

- Developed a sleek, minimalist blog using Tailwind which complies with minimalist design principles.
- Implemented a dynamic review page interfacing with **Firebase Realtime Database** for seamless storage and retrieval of musician information. **Automated frontend** updates to reflect database changes, ensuring consistent styling based on predefined properties.

Command-Line Chess

November 2022

C++ | <https://github.com/odis43/CLI-chess>

- Designed and implemented a fully functional chess game in C++, following **OOP** and **RAII principles**.
- Effectively leveraged the **Observer design pattern** to enable efficient communication and updates between different game components, reinforcing the project's object-oriented foundation.
- Accommodated rule modifications and additional players by extending the OOP-based architecture, ensuring **adaptability** to different chess experiences.

Education

University of Waterloo

Sept. 2021 – Present

Candidate for Honours Bachelor of Computer Science, Business Specialization

Waterloo, ON