

# Hrithvik Alex

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## ⚙ Skills

**Languages** Python, Typescript, SQL, C++, C, C#

**Frameworks** React, Node, Git, Keras, Express, GraphQL

## 👛 Experience

### BMO Capital Markets

September 2020 – December 2020

*Quantitative Developer*

*Toronto, ON*

- > Processed and transformed millions of entries of financial market data with **Python** and SQL
- > Generated visual mathematical models and tables for data analysis with **C#** and the ASP .NET framework

### LCBO|Next

January 2020 – April 2020

*Full-Stack Developer*

*Waterloo, ON*

- > Expanded a product recommendation app piloted in multiple retail stores using **Typescript** and React
- > Spearheaded development and deployment with **Docker** and Azure on an application designed to mitigate line up times for **thousands** of shoppers during the pandemic
- > Improved product inventory APIs developed with Node.js, Express, and **PostgreSQL** leading to **12%** reduced call times
- > Refactored the ETL process gathering thousands of cocktail mixer data points with **Elasticsearch** reducing data collection times by **95%**

### Hiwave

May 2019 – August 2019

*Data Engineer*

*Toronto, ON*

- > Created image and logo classification CNN models with **87% validation accuracy** using **Python** and Keras
- > Constructed data pipelines which gathered **20,000 images per day** from the web and processed them through self-made machine learning models
- > Developed a new mobile-responsive landing page for talk-AI-tive, the flagship product, using **React**
- > Analyzed user behavior with products and services through **TensorFlow** image captioning algorithms, leading to a **12% increase** in sentiment analysis data volume

## </> Projects

### C++ Arcade Game Engine 🎮

- > Recreated arcade classics such as Breakout, Asteroids, and Pac-Man from scratch using **C++** and SDL
- > Designed systems for input handling, sprite animations, file loading, collision physics, and UI elements

### Fashionably (Starterhacks winner) 🏆

- > Created a **Swift** iOS app using CoreML, UIKit, and Cocoapods that reviewed user selected pictures of their wardrobe and classified them according to weather and style
- > Implemented a **Keras** CNN to classify pictures by clothing type with **89% accuracy** on over a 1000 images

### CookMe! (Hack the North) 🍳

- > Created a responsive web app using **React** and **Node.js** using image detection to generate food recipes
- > Generated labels for recipes using an image labeling model hosted on **GCP** and managed through **Express**

## 🎓 Education

### University of Waterloo

2018 – Present

*BSE Software Engineering - GPA: 3.88/4.0*

*Waterloo, ON*

- > Term Dean's Honour List (2A, 2B)
- > Created a Compiler in **Scala** from Machine Code to Type Checking (CS 241e)