

# RISHABH SAMBARE

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## EDUCATION

### University of Waterloo

Waterloo, ON

BMath in Computer Science, Combinatorics/Optimization

Sep 2020 – Apr 2025

- Recipient of the Math Entrance Scholarship, granted to 100 top performing students entering Math and CS.

## EXPERIENCE

### University Health Network - CanDIG

Sept 2021 – Present

Software Engineer Intern | Python, Docker, Tensorflow, GraphQL

Toronto, ON

- Designed and currently developing a federated machine learning service with Tensorflow, Scikit-learn, and Flower, enabling researchers to train classification models on **3x** more data across Canadian provinces.
- Designed aggregate queries from a GraphQL service for model training data, eliminating the need to deploy aggregation REST endpoints.
- Rewrote and abstracted internal data ingestion scripts using Python and temporary files, reducing development ingestion time by **50%**.
- Implementing differentially private and securely aggregated federated alternatives to popular classification models.

### Kumon Canada

May 2018 – August 2019

Teaching Associate

Toronto, ON

- Instructed at least 20 children daily on math topics ranging from simple counting to elementary integration methods.

## PROJECTS

### HyBot - A Multipurpose Discord Bot Written in Go



Go, Google Compute Engine, Cloud Firestore, GraphQL

- Designed the bot to instantly send embedded media when prompted by certain message keywords, storing responses in Cloud Firestore for low latency.
- Developing the display of a variety of data from external GraphQL APIs using **Khan/Genqlient** to guarantee type safety at compile-time.

### Wave Chat - A Video Chatting Service For University Students



MongoDB, Express, Javascript, Node.js

- Designed and led the development of a matchmaking system to connect **1500** university students based on common interests and program of study.
- Created multiple API endpoints for CRUD operations to a MongoDB database servicing Wave Chat's dashboard, storing user and matchmaking metadata.

### Deranged Murakami - ML Models For Producing Literary Text



Tensorflow, Cloud Functions, Cloud Storage, React

- Implemented an RNN trained over character sequences with Tensorflow to generate Haruki Murakami-styled text from a user prompt.
- Deployed the model with Cloud Functions, reducing worst-case latency times by **75%** through setting a minimum instance and caching model variables.

## TECHNICAL SKILLS

**Languages:** Python, Go, C/C++, Javascript, Java, Haskell, SQL, Bash

**Technologies/Frameworks:** React, GraphQL, Google Cloud, MongoDB, Express, Tensorflow

**Developer Tools:** Git, Docker, Cron, Vim

## INTERESTS

board/card games, rock climbing, piano, cryptocurrency