

RISHABH SAMBARE

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TECHNICAL SKILLS

Languages: Python, C++, Go, Javascript, SQL, Bash

Technologies: Tensorflow, PyTorch, Scikit-learn, Docker, React, GraphQL, Google Cloud, PostgreSQL

EXPERIENCE

University Health Network - Data & ML Platform

Sep. 2021 – Dec. 2021

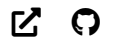
Software Engineering Intern | Python, Docker, Scikit-learn, GraphQL, Bash

Toronto, ON

- Prototyped a federated ML service 🔗 to run atop a national decentralized genomics infrastructure using the Flower federated learning framework, enabling researchers to train models on ~3x more data.
- Analyzed multiple federated learning research papers, leveraging findings towards design of federated learning experiments and setup.
- Designed a data pipeline for preprocessing oncology data using Pandas and GraphQL queries, employed for 3 classification tasks.
- Refactored internal data ingestion scripts using Bash and Docker, reducing development ingestion time by 35%.

PROJECTS

climbing-regressor — Python, Flask, Heroku, Scikit-learn, React



- Trained a Random Forest regressor on 1.5M entries of scraped logbook data to predict a climber's best grade based on gender, height, weight, and time climbing.
- Achieved a 16% improvement in predictions through optimizing hyperparameters with 3-fold cross-validated grid search.
- Deployed the model for inference with Flask and Heroku to serve a static React website for users.

deranged-murakami — Python, Tensorflow, Cloud Functions, Cloud Storage, React



- Implemented an RNN trained over character sequences 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.

wave-chat — Javascript, MongoDB, Express, EJS



- Designed and developed a queue-based matchmaking algorithm 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.
- Enabled Wave Chat to service 5 more universities and 1000 different real-time chats by using an in-memory JSON object to store unique queues for constant time matchmaking.

fss-bot — Go, GraphQL, Compute Engine, Cloud Firestore



- Created a multi-purpose Discord bot written in Go and deployed with Google Compute Engine.
- Developed the display of a variety of data from external GraphQL APIs using Khan/Genqlint to guarantee type safety at compile-time.
- Designed the bot to instantly send embedded media when prompted by certain message keywords, storing responses in Cloud Firestore for low latency.

EDUCATION

University of Waterloo

Sep. 2020 - Expected Apr. 2025

Candidate for BCS Computer Science

- Recipient of the Math Entrance Scholarship, granted to 200 top performing students entering Math and CS.