

Samarth Patel

University of Waterloo New Grad Looking for Cool Projects

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Summary of Qualifications

Software Proficiency

- Python, C++, JavaScript, C, C#, SQL, Vector Stores, RESTful APIs, GraphQL, Bash, and Git
- TensorFlow, PyTorch, Docker, Haystack, spaCy, AWS, React, FastAPI, OpenSearch, MySQL, and Redis

Publications

- “CReSCENT: Cancer Single Cell Expression Toolkit”, Nucleic Acids Research – June 2020

Professional Experience

BetterUp

Professional Coaching Platform

NLP Engineering Intern
September 2022 – December 2022

- Led development of a modular NLP-based recommendations service using OpenSearch, Haystack, and FastAPI for quick AB testing
- Tested alternative embedding retrieval methods using spaCy that improved recommendation system metrics by 15%
- Planned AWS infrastructure changes to support new ML services

Lumafield

Industrial CT Scanning

Software Engineering Assistant
January 2022 – April 2022

- Parallelized random image augmentations in Python to achieve memory efficient loading when training VGG-based neural networks
- Leveraged AWS GPU instances to train models using custom loss functions and hyper-parameter sweeps via TensorFlow
- Incorporated trained models into embedded and cloud image processing pipelines to boost speed, efficacy, and UX

Phreesia

Hospital Software Solutions

Software Engineer Intern
May 2021 – August 2021

- Built a memory efficient data cleaning application to remove duplicate patient data using .NET Core
- Designed and implemented an automated calling service using ASP.NET, Redis, and Twilio to confirm patient appointments
- Documented and transitioned projects to full-scale development

SickKids

Computational Medicine

Research Developer
January 2020 – April 2020,
September 2020 – December 2020

- Developed an automatic API driven data processing system using a Flask Python server and MinIO object store webhooks
- Added numerous Flask endpoints and updated MySQL schema to conform to a complex permission model
- Refactored Apollo and Graphene GraphQL backends for migration to cloud computing system and cloud object store

Projects

StreetSight

ML Engineer
May 2022 – March 2023

- Prototyped a camera-based aid for the visually impaired to safely navigate intersections with pedestrian lights
- Trained a real-time YOLO-based model in PyTorch on custom intersection data, and transitioned it onto an embedded system

Guitar Hero Replica

Software Lead
Nov 2018 – Dec 2018

- Utilized a Linux virtual machine and a terminal emulator to create and send hardware dependent code to a Raspberry Pi in C
- Regulated numerous alternate function pins on a Raspberry Pi to achieve sound output from a digital signal

Education

University of Waterloo

2018 - 2023

Bachelor of Applied Science in Computer Engineering
Graduated at the top of the program with a GPA of 3.97/4.00