

Education

Queen's University May 2025
Bachelor of Science in Computer Science (GPA: 3.52) Kingston, ON

Experience

Statistics Canada Ottawa, ON
Programmer Analyst Sep 2022 - Sep 2024

- Designed and implemented a PowerShell disk optimization utility which dynamically resized storage volumes across development and production VMs, reducing my team's monthly Azure storage costs by 70%.
- Rebuilt and validated a critical development server after unplanned deletion; restored deployment pipelines, tested Azure Function endpoints using Postman, and ran Azure Graph queries to ensure data integrity across our services.

OFFIS – Institute for Information Technology Oldenburg, Germany
Software Engineering Intern May 2022 - Jul 2022

- Increased speech quality prediction model accuracy from 85% to 92% by translating parts of the nSTOI signal processing library from MATLAB to Python using NumPy, and integrating it into the existing machine learning pipeline.
- Engineered and optimized batch training workflows for speech quality prediction models on a high-performance computing cluster using BASH, TensorFlow and Keras. Experimented with model architectures and feature selection to achieve the 7% performance increase.

QMIND Kingston, ON
Machine Learning Developer Sep 2020 - Apr 2023

- Developed a real-time voiceprint identification system using Keras, accurately differentiating between speakers 85% of the time.

Projects

Pronouncify | React.js, JS, HTML, CSS

- Turns hyperlinks from the Spotify desktop app into copy-pasteable strings using the Spotify API.

Conference Database | PHP, HTML, CSS, MySQL

- Built a full-stack conference management system using PHP, HTML/CSS, and MySQL, enabling administrators to perform CRUD operations on attendees, speakers, accommodations, sponsors, and other relational data.

Voiceprint Identification | Python, Keras, Librosa, SKLearn

- Developed a real-time speaker identification system using Keras and Python, featuring a Tkinter GUI for adding user voiceprints, training models, and live prediction with over 75-90% validation accuracy depending on the speaker.

nstoi thirdoct | Python, Numpy

- Wrote a Numpy version of MATLAB's third-octave band matrix library to increase a novel speech quality prediction model from 85% to 92%.

Personal Site | JavaScript, HTML, CSS, Node

- Built a static personal blog using 11ty that converts Markdown to HTML, and auto-deploys via GitHub Actions.

Technical Skills

Languages: Python, JavaScript, Powershell, HTML, CSS, SQL (MySQL and MongoDB)

Technologies: Azure, Git, UNIX