

EDUCATION

University of Waterloo Bachelor of Applied Science, **Systems Design Engineering**

2021–2026

WORK EXPERIENCE

Embedded and Full Stack Software Intern

Jan 2024 – Apr 2024

Gastronomous Robotics, Oakville, ON

- Built a **ROS2** node to automatically capture and label over **10,000** images of training data across 6 classes for a computer vision system on a culinary robot
- Fine-tuned the YOLOv8-nano image classification model on the collected training data, achieving a **99% overall accuracy**. Deployed the model as a ROS2 node on an OAK PoE camera with the DepthAI library, saving **\$3000** per robot
- Designed and implemented a responsive active monitoring dashboard for deployed robots using **React** and **NextJS**, featuring live camera and UI streams
- Architected a Python library to handle asynchronous communication between the robots Python backend and Javascript frontend using **Websocket**
- Utilised **KiCad** to design a signal interface **PCB** to connect industrial 24V sensors to a microcontroller, as well as motor breakout PCBs to improve wire management within the machine
- Implemented an automated data logging system, using Viam, Python and **SQL**, to upload robot log data to the cloud, allowing advanced data analytics

Software Developer Intern

[Article About Project](#)

May 2023 – Aug 2023

The Weather Network – Generative AI Team, Oakville, ON

- One of five founding engineers on team building a Large Language Model (**LLM**) powered weather assistant for **40 million users** of Canada's top weather app and website, utilizing **Python (Django)** and **Langchain**
- Leveraged Named Entity Recognition to handle historical weather data and location-based prompts
- Helped reduce token cost by **50–80%** by utilizing **Langchain agents**
- Designed web components using **Typescript, React & Next.js**, along with **Cypress** E2E and **Jest** unit tests

Data Engineering Intern

Sep 2022 – Dec 2022

Grantmatch, Toronto, ON

- Fine-tuned the BERT language model on **HuggingFace**, and implemented a text classification neural network with **Pytorch** to categorize grants into industries, trained on 4000 grants collected through webscraping

Full Stack Developer Intern

Jan 2022 – Apr 2022

Intelliculture, Waterloo, ON

- Developed farm management software for customers ranging from family farms to Fortune 500 agricultural companies, using **Node.js, Django, React** and **FaunaDB**

PROJECTS

Condensed.news – News Summary Web App

[Try it Out](#)

[View the Code](#)

[Blog Post](#)

- Created a web app which uses AI to summarize the latest news, with **Flask, PostgreSQL** and **HuggingFace**

Sohailsayed.com – Windows XP Recreated in React

[Try it Out](#)

[View the Code](#)

- Recreated Windows XP with **React, Typescript** and **Next.js** for my personal website

TECHNICAL SKILLS

Languages/Frameworks: Python, Javascript, Typescript, C++, Django, Flask, Node.js, React.js, Next.js

Other Tools: ROS2, SolidWorks, KiCad, Langchain, SQL, Pytorch, PostgreSQL, Git, AWS, Bash