

EDUCATION

MSc in Applied Computing, Computer Science <i>University of Toronto, Toronto, Ontario</i> Topics: Deep Learning, Computing Vision, Natural Language Processing, Distributed Computing.	Sep. 2023 – Dec. 2024
BMath in Computer Science <i>University of Waterloo, Waterloo, Ontario</i> Awards: Dean’s Honor List GPA: 3.9	Sep. 2018 – May 2023

EXPERIENCE

University Health Network, Toronto, CA <i>Machine Learning Developer Intern (coop) Python, PyTorch</i> <ul style="list-style-type: none">Conducted research on biological cell image recognition, analyzing 20+ papers to summarize current trends and limitations, leading to the development of a project proposal.Improved data preparation speed by 73% by preprocessing raw lab data and designing a semi-automated annotation pipeline. Utilized foundation model SAM to extract relevant data, significantly improving nuclei segmentation while reducing manual effort.Implemented and optimized segmentation algorithms based on Mask R-CNN, achieving an average recall improvement of 4.7%. Evaluated different backbone networks and improved recognition accuracy beyond 90%.Enabled lab researchers to automate workflows and reduce manual effort by 80% by building a scalable web application for cell image analysis, developing the frontend and backend in Python, integrating Flask + Docker for model deployment.Tech Stack: Python, PyTorch, Matplotlib, Pandas, NumPy, Scikit-Learn, SciPy, TensorBoard, Streamlit	May 2024 – Dec. 2024
Cepton, California, US <i>Software Engineer Intern (coop) C++, Python, React</i> <ul style="list-style-type: none">Designed and iterated on multiple experiments for a LiDAR object detection neural network, classifying 7+ object types, improving vehicle and pedestrian detections by 16% and 7%, respectively (F-scores).Developed LiDAR point cloud visualization software and migrated Python-based LiDAR algorithms to C++, reducing computation time by 50%.Implemented interactive web app features in React, improving user experience by surveyed feedback from 15+ engineers to identify usability improvements.Tech Stack: PyTorch, C++, React	May 2022 – Dec. 2022
Relogix, Ottawa, CA <i>Software Engineer Intern (coop) C#, .Net, SQL, Azure, JavaScript, Angular</i> <ul style="list-style-type: none">Enabled global accessibility and expanded the user base by 30%, by implementing multi-language text-switching functionality for 50+ interactive pages for a web application.Designed scalable RESTful Backend API endpoints in Microsoft Azure. Optimized SQL queries and executed unit tests for backend services, ensuring 99% uptime and reliability.Tech Stack: C#, .Net, Microsoft Azure, SQL, JavaScript, Angular, RESTful APIs, CI/CD, Service-Oriented Architecture	Sep. 2021 – Dec. 2021
SignToBuy, Shanghai, CN <i>Full Stack Developer (coop) C, JavaScript</i> <ul style="list-style-type: none">Designed and implemented a financial application UX/UI, backend API, and SQL scripts for relational database.	January 2021 – April 2021
City of Toronto, Toronto, CA <i>Software Developer (coop) PHP, HTML, MySQL</i> <ul style="list-style-type: none">Boosting site item management by 30%, by developing an internal web application for the inventory management system, using PHP, HTML and MySQL.	May 2020 – September 2020

PROJECT

Neural Machine Translation using Transformer Natural Language Processing Python <ul style="list-style-type: none">Built Transformers from scratch, implementing core components like multi-head attention, beam search, and encoder-decoder architecture for effective French-to-English translation.	Feb. 2024 – Mar. 2024
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Computer Vision Aim-Assist

Jun. 2023 – Aug. 2023

Real-time Object Detection simulated in mainstream FPS Game | Python

- Developed an **AI-powered aim-assist system**, achieving **83%** precision and 45 fps inference speed in real-time gaming scenarios.

Awake (Deck Roguelike Game)

Jan. 2023 – Apr. 2023

Software Design, Game Development | Android, Kotlin

- Designed and Implemented a Native Android game by using Kotlin, successfully conducted a 15-minute game demo. Optimized the software design by utilizing several architectures and design patterns.

SKILL

Coding: Python, C/C++, C#, JavaScript, HTML, React, Angular

Summary: I am a passionate software developer with coop experiences in Machine Learning and Web development