

EDUCATION

University of Toronto

Honours Bachelor of Science in Computer Science - Entrance Scholarship

Sep 2019 – Jun 2024

Mississauga, Ontario

EXPERIENCE

AIRY3D - Core Team

Computer Vision Software Engineering Intern

May 2024 – Present

Montreal, Quebec

- Develop an ISP pipeline in C++ using OpenCV to improve image quality by implementing key image processing steps, with ongoing enhancements.
- Enhance raw image processing by collaborating with the optics team, researching existing ISP projects, and leveraging academic papers, aiming to surpass the company's current ISP capabilities.

University of Toronto

Teaching Assistant

Sep 2021 – Apr 2024

Mississauga, Ontario

- Assisted teaching in the following courses: Computer Programming, Computer Science, Theory of Computation, Computer Organization, Ethics for Computer Scientists, Databases
- Prepared tutorial material and ran tutorials and office hours to help improve understanding of course material.
- Graded tutorial exercises, midterms, final exams, and supervised evaluations.

Zillow - Rich Media Experiences (RMX) Team

Software Development Engineering Intern

May 2023 – Aug 2023

Remote

- Enhanced AR room capture app using Apple's RoomPlan API, optimizing capture efficiency and accuracy by implementing ARSession relocalization and generating 2D and 3D interactive floor plans with furniture.
- Adapted project scope based on WWDC23 updates, producing a comprehensive 16-page analysis and collaborating with the RMX team for ongoing refinement.

Zillow

Zillow Engineering & Leadership (ZEAL) intern

Jun 2022 – Aug 2022

Remote

- Backend Rotation:** Developed a Java Job Trigger and parquet Export for the Rental Revenue Platform Team, enhancing data handling efficiency by streamlining database access and exporting tables to AWS Datalake.
- Mobile Rotation:** Programmed a UIKit Real Estate agent contact details page and parsed data into JSON, improving user interface functionality and data integration for the Premier Agent iOS Mobile Team
- Zillow's Yearly Hack-week:** Modified USDX models and explored the RoomPlan API, contributing our team winning 2nd place in the People's Choice: Product Features & Business Ideas category.
- Frontend Rotation:** Analyzed and redesigned the Constellations documentation platform for an improved user experience, and enhanced the site search UI using React, Styled Components, and HTML/CSS, boosting navigation efficiency for the Constellations Design System Team.

Tiary Inc.

Software Development Intern

Jun 2021 – Aug 2021

Toronto, Ontario

- Revamped web pages (Blog, FAQ, Checkout, Order Tracking) using React and developed Tiary Studios' info site with JavaScript, Gatsby, and GraphQL, improving site functionality and user experience

Microsoft

Product Marketing Management Intern

Jul 2019 – Aug 2019

Mississauga, Ontario

- Developed a PowerApps Inventory Management Platform with a team of 5, reducing marketing material request time and presenting it at Microsoft's National Annual General Meeting.

PROJECTS

Endoscope Pose Differentiation in the Larynx Project | Python, OpenCV, DeepLabCut

Jan 2024 – Present

- Developing a system to identify larynx landmarks and creating an application for vocal fold analysis to aid a graduate student's 3D reconstruction of the larynx. Utilized OpenCV, SciPy, HSV color masks, and trained a DeepLabCut model for landmark annotation. Preparing for publication.

Indoor Rock-Climbing Assistance Tool (IRCAT) | Python, OpenCV, YOLOv8

Sep 2023 – Present

- Collaborated on creating a system to aid visually impaired climbers throughout their ascent. Utilized OpenCV for pose estimation and YOLOv8 for rock hold detection
- Managed HSV values to classify routes based on color and engineered a user-friendly route configuration interface.
- Contributed to a \$1500 research grant and will present the project at the 2024 UofT Summer Undergraduate Research Fair.

Brain Tumor Classification Model <i>Python, TensorFlow</i>		Sep 2023 – Dec 2023
<ul style="list-style-type: none"> Contributed to developing a model for classifying glioma, meningioma, and pituitary tumors from multi-axis MRIs, enhancing diagnostic accuracy. Improved model robustness through data augmentation and subject segregation. Studied interpretability methods, including saliency maps and GANs, to enhance model transparency. Achieved 1st place at the UTMSU Undergraduate Research Symposium for this project. 		
Bedtime Story Completion Model <i>Python, PyTorch, Hugging Face Transformers</i>		Apr 2023 – Apr 2023
<ul style="list-style-type: none"> Contributed to the development of a GPT-2 model for story generation and an RNN model for title generation, aiding writers in overcoming writer’s block and speeding up bedtime story creation. Cleaned and pre-processed datasets, set up models, implemented user interaction modules, and debugged RNN model while integrating conceptual connections with the GPT-2 model. Contributed to project documentation. 		
Website Manager - WiSC UTM <i>Gatsby, Contentful, HTML, CSS, JavaScript</i>		Apr 2023 – Apr 2023
<ul style="list-style-type: none"> Designed and built the Women in Science & Computing UTM club’s website, collaborating with executives to enhance user experience and ensure future scalability. 		
RELEVANT COURSES		
<ul style="list-style-type: none"> Image Understanding Machine Learning Neural Networks and Deep Learning 	<ul style="list-style-type: none"> Fundamentals of Robotics Mobile Robotics Medical Robotics Ethics for Computer Scientists 	<ul style="list-style-type: none"> Computer Vision-based Methods for Endoscope Pose Differentiation in the Larynx
SKILLS		
Fluent: Python, C++, Swift, Deeplabcut, OpenCV, PyTorch, TensorFlow, Agile, Scrum, OOP, Canva		
Proficient: YOLO, RoomPlan, React, Gatsby, Contentful, Firebase, AWS, HTML, CSS, Scrapy, PostgreSQL, Figma		
Familiar: C, Assembly, JavaScript, Typescript, PowerApps		
Languages: Spanish (Native), English (Fluent), French (DELF B1), Italian (Beginner)		