
EDUCATION

- **Toronto Metropolitan University (formerly Ryerson University)** Toronto, ON
Master of Science in Computer Science, Specialization in Artificial Intelligence *Sept 2023 - Present*
 - **Vector Scholarship in AI 2023-24:** \$17,500 merit-based scholarship from the Vector Institute to recognize top candidates pursuing graduate studies in AI.*Bachelor of Science (Hons.) in Computer Science; cGPA: 4.02/4.33* *Sept 2018 - Apr 2023*
 - **Michel Jr Julien Award:** \$5,000 award for academic excellence, community/research involvement, and my equity-deserving pursuit of a degree in a Computer Science Program.
 - **Department of Computer Science Award:** \$500 award for top marks in Computer Science I & II.

EXPERIENCE

- **Synaptive Medical** Toronto, ON
Research & Development Intern *May 2023 - Aug 2023*
 - **Surgical Instrument Segmentation:** Developed and implemented UNet-based convolutional neural networks to achieve precise surgical instrument segmentation in support of advanced medical device innovation.
 - **Machine Learning App Life-cycle:** Collaborated with neurosurgery domain experts to guide the end-to-end machine learning application lifecycle, fostering innovation and precision in medical device development.
- **Maternal Fetal Imaging Lab** Toronto, ON
Machine Learning Researcher *Sept 2022 - Apr 2023*
 - **Fetal Brain Segmentation:** Created a CNN-based machine learning pipeline using a Unet model with a pre-trained ImageNet encoder for multi-class semantic segmentation of Fetal brain MRIs.
 - **Data-limited Learning:** Reviewed research literature regarding data-limited learning in medical imaging such as techniques for data augmentation, and synthetic data generation using variational autoencoders.
 - **Pre-processing Pipeline:** Developed and documented a data pre-processing pipeline in accordance with the Medical Segmentation Decathlon standard.
- **IBM** Markham, ON
Back-end Developer Intern *May 2021 - Aug 2022*
 - **TeamInsight:** Developed and maintained an internal headcount tool using DB2, Expressjs, Reactjs, and Nodejs.
 - **DevOps:** Proposed and implemented database version control of DDLs using DB2 extraction tooling and git.
 - **Analytics:** Configured an Ngnix server to log REST API endpoint response times as an objective measure of back-end performance. This initiative helped identify +4 hrs/wk of inefficient back-end compute.
 - **Continuous Integration:** Expanded automation within the team's Continuous Integration pipeline using Travis.*CAS Research Assistant* *Jan 2022 - Aug 2022*
 - **Natural Language Processing:** Explored automated Apache log parsing using recurrent-neural-network-based machine translation models (i.e. {GRU, LSTM, Transformer}-based models).
 - **Digital Research Alliance of Canada (formerly Compute Canada):** Used Slurm Workload Manager to schedule ML training and evaluation jobs on a distributed supercomputer using NVIDIA A100 GPUs.*CASCON x EVOKE 2021 Conference Volunteer* *Nov 2021*

PROJECTS

- **Sentiment Analysis of Amazon Reviews:** Comparative study of machine learning classification approaches.
- **Multi-scale Face Detection:** Face Detection using SVM and Histogram of Oriented Gradients features.
- **Optical Flow Estimation:** Implementation of Lucas-Kanade optical flow algorithm that computes the pixel-wise motion between two images in a sequence.

PROGRAMMING SKILLS

- **Languages:** Python, JavaScript, C/C++, C#, SQL **Technologies:** Tensorflow, PyTorch, SLURM, Docker