Adam Sorrenti

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Education

- **Toronto Metropolitan University (formerly Ryerson University)** — Toronto, ON
  Master of Science in Computer Science — *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, Transfomer}-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