NABILA ABRAHAM

📍 Toronto, Canada   **in** nabilaabraham   ⚙ nabsabraham   ✉ nabila.abraham@ryerson.ca

SKILLS

- Python, MATLAB, Shell,C++
- Azure ML, AWS EC2
- PyTorch, Keras, Git, ROS

ABOUT ME

- Frameworks/Tools I use daily:
  - Ubuntu, PyTorch, Git
- Problems where I can hit the ground running:
  - Computer Vision
  - Medical Imaging
  - Signal Processing
- Problems I'm interested in:
  - Variational Autoencoders
  - Convolutional LSTM
  - NLP + CNNs
- Tools I've dipped my toes in:
  - SQL
  - Flask

EDUCATION

RYERSON UNIVERSITY

MASc. in Electrical & Computer Engineering
2017 – 2019 | Toronto, ON
MASc thesis: *Towards improved medical image segmentation*
- Developed custom loss function for class imbalance
- Proposed a multimodal framework to improve feature extraction for segmentation

RYERSON UNIVERSITY

B.Eng in Biomedical Engineering
2012 – 2017 | Toronto, ON
Capstone thesis: *Wireless intraoperative neuromonitoring system for spinal surgery*

WORK EXPERIENCE

Lunenfeld-Tanenbaum Research Institute (Sinai Health System)| Deep Learning Researcher

July 2019 – Present
- Developing deep networks to deal with class-imbalance in prostate cancer detection and segmentation
- Providing neural network visualizations for clinical team

Ryerson Collaboratory | Research Technology Assistant

Jan 2018 – March 2019
- Hosted beginner-level workshops on machine learning
- Provided tutorials on fabrication equipment such as 3D printers, laser cutters, digital embroidery machine and basic electronics

Toronto Hydro Electric Systems | Senior Technical Student

Sept 2015 – Sept 2016
- Ran short circuit simulation studies using the CYME software
- Conducted protection and co-ordination studies on transformer stations to update existing relay settings

RESEARCH

Ryerson Multimedia Lab | Graduate Student Researcher

Sept 2017 – Oct 2019
- Investigated loss functions and generative models to improve semantic segmentation of medical data
- Partnered with Shaftesbury VR to develop predictive cues on player stress using time series analysis on biomedical signal data; deployed ML models using Azure ML *(patent pending)*

VOLUNTEER

Ryerson Rams Robotics Team | Machine Learning Mentor

Jan 2019 – July 2019
- Integrated recognition models into the vision pipeline using ROS

IEEE Ryerson Chapter |Graduate Student Representative

Sept 2018 – May 2019
- Organized monthly journal clubs with graduate students to discuss literature in deep learning

PUBLICATIONS

- Please view my Google Scholar profile or website for a detailed list