NABILA ABRAHAM

📍 Toronto, Canada | in nabilaabraham | ⌂ nabsabraham | ✉ nabila.abraham@ryerson.ca

SKILLS

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

ABOUT ME

- Frameworks/Tools I use daily:
  - Ubuntu, PyTorch, Git
- Problems where I can hit the ground running:
  - Computer Vision
  - Medical Imaging
- Problems I'm interested in:
  - Variational Autoencoders
  - Transfer learning for better generalization
  - Convolutional LSTM
- Tools I'm learning:
  - SQL/NoSQL

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

- Currently developing deep networks to deal with class-imbalance in prostate cancer detection

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 – Present

- Investigated loss functions and generative models to improve semantic segmentation of medical data
- Worked with Shaftesbury VR to develop predictive cues on player stress using time series analysis on biomedical signal data

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
- Assisted in planning outreach/ networking events with AI companies

PUBLICATIONS

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