



[Nabila Abraham](#)



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## SKILLS

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

## ABOUT ME

- Frameworks/Tools I use daily:
  - Ubuntu, PyTorch, Git, Spark, SQL
- Problems where I can hit the ground running:
  - Computer Vision
  - Medical Imaging
  - Signal Processing
- Research I'm interested in:
  - Graph Neural Networks
  - NLP + CNNs

## 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

### Loblaw Companies Canada | Data Scientist (R&D)

February 2020 – Present

- Researching avenues to improve the health & wellness unit
- Creating TL,DR paper summaries for the Data Insights & Analytics team

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

July 2019 – January 2020

- Developed deep learning models for prostate cancer detection
- Provided 3d neural network visualizations for clinical team
- Co-authored a publication regarding clinical decision making on prostate cancer detection with supervised 3d CNNs

### 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 signals (*patent pending*)

## TEACHING

### 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

### Ryerson University | Graduate Teaching Assistant

Sept 2017 – May 2020

- Taught courses on MATLAB (ELE532 + BME802), electric circuits (ELE202) and web dev with HTML/CSS/JavaScript (DG8002)

## 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