

## ACADEMIC QUALIFICATIONS

2018-19	<b>Master of Science in Applied Computing</b> University of Toronto	GPA: 4.0/4.0
	Machine Learning and Data Mining, Machine Learning for Health, Natural Language Computing Topics in Interactive Computing: AR/VR, Communication for Computer Scientists, Technical Entrepreneurship	
2013-17	<b>Bachelor of Technology</b> Indian Institute of Technology Guwahati	GPA: 8.86/10.0
	<b>Computer Science and Engineering</b> Computer Vision using ML, Probability Theory and Random Processes, Data Structures, Algorithms Parallel Computing, Theory of Computation, Operating Systems, Networks, Databases	

## TECHNICAL PROFICIENCY

Languages:	C/C++, Python, Scala, Javascript
ML & BigData Tools:	Tensorflow, OpenCV (C++/Python), PySpark, Google Cloud, AWS services, Apache Spark
Miscellaneous:	Docker, Git, Django, CellProfiler, MySQL, L <sup>A</sup> T <sub>E</sub> X, Java Native Interface
Tools and IDE:	Apache JMeter, Visual Studio, JupyterLab
Operating Systems:	GNU/Linux, MacOS, Windows

## EXPERIENCES

**MICROSOFT - Data & Applied Scientist 2** JULY 2021 – Present

*Tools Used:* C#, PowerBI, Internal Compute and Development Tools

- Owner of module for diversifying and re-ranking recommended documents for a new product called PRISM
- Developed scalable, modular code from the scratch. Shipped to en-\* market
- Working on Query Classifier for identifying relevant user signals for personalization

**HUAWEI TECHNOLOGIES (Noah Ark Lab) - Associate Researcher** FEB 2020 – JULY 2021

*Tools Used:* C++, Python, Tensorflow, Tensorflow Lite, Android JNI, HiAi Platform, ONNX

- Prototyped face detection and object detection for android systems
- Mentored four co-op intern students working on different ML inference projects
- Contributor to drowsiness detection system, featured as a major product by Huawei CBG CEO
- Consulted on multiple projects for architectural design and embedded systems related optimization

**PHENOMIC AI - Machine Learning Research Intern** MAY 2019 – DEC 2019

*Tools Used:* Python, CellProfiler, AWS services

- Developed and deployed a robust and scalable segmentation and feature extraction pipeline for microscopic images.
- Classified and analysed different cells identified through segmentation using supervised and semi-supervised techniques.
- Quantified and validated the contact-dependent effects between lung cancer cells and fibroblasts.

**SAMSUNG RESEARCH INSTITUTE - Software Engineer** JUNE 2017 – AUGUST 2018

*Tools Used:* C++, Tensorflow Lite, Apache Spark, Scala

- Devised an offline tracking method for residents based on sensors in the house. Published in a Springer conference.
  - Developed a robust generic preprocessing script for raw sensor-based data. Reduced time from two weeks to three days.
  - Development of voice activity model trained on TIMIT and in-house dataset for a resource-constraint embedded device.
- Award:** Internal Samsung Awards for preprocessing script and significant improvement in validation time of the model.

## PROJECTS

**k-space IMPUTATION AND MRI RECONSTRUCTION** JAN - APR 2019

*Prof. Marzyeh Ghassemi, Dept. of Computer Science, University of Toronto*

Explored denoising autoencoder based U-Net and perceptual GAN to impute k-space to improve the process of MRI reconstruction. Proposed the DAE-UNet method and trained using fastMRI dataset.

**TEXT READABILITY ANALYSIS USING LANGUAGE MODELS** FEB - APR 2017

*Prof. Ashish Anand, Dept. of CSE, IIT Guwahati*

Developed an unsupervised approach for predicting text readability scores. Implemented deep-learning and statistical models for comparing results with vocabulary-based and syntactic approaches.

**USING SPATIAL TRANSFORMER NETWORKS FOR EGOCENTRIC IMAGES** SEPT - NOV 2016

*Prof. Arijit Sur, Dept. of CSE, IIT Guwahati*

Implementing spatial transformer networks (introduced in Google DeepMind) for object recognition and activity prediction from egocentric images and evaluating it on GTEA dataset. The model showed better results than a traditional CNN model.

## ACHIEVEMENTS &amp; TALKS

- Received MITACS Accelerate Funding for the internship at Phenomic AI.
- Ranked 11 in Microsoft – Build the Shield 2015, a team based event on Software and Network Security
- Qualified for the Onsite ACM-ICPC (Amritapuri) – 2014 (India), a competitive programming contest
- Delivered talks on various topics (IITG Network Architecture, Introduction to Programming, Object Oriented Programming Structure) as undergrad student in IIT Guwahati