Sumeet Ranka

in/in/ranka47 | /ranka47

sumeet.ranka47@gmail.com | ranka47.github.io | +1-647-675-4051

ACADEMIC QUALIFICATIONS

2018-19 **Master of Science in Applied Computing** **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 **Bachelor of Technology** **Indian Institute of Technology Guwahati** **GPA:** 8.86/10.0
Computer Science and Engineering
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, LaTeX, Java Native Interface
Tools and IDE:	Apache JMeter, Visual Studio, JupyterLab
Operating Systems:	GNU/Linux, MacOS, Windows

EXPERIENCES

HUAWEI TECHNOLOGIES (Noah Ark Lab) - Associate Researcher *FEB 2020 – Present*
Tools Used: C++, Python, Tensorflow, Android JNI, HiAi Platform
- Prototyped face detection and object detection for Huawei NPUs
- Inference code deployed on Android Native Platform
- Leading a group of three people and consulting on JNI

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 & TALKS

- Received **MITACS Accelerate Funding** for the internship at Phenomic AI.
- Session Speaker at IIT (BHU) Varanasi in **QIP-STC 2017** themed on *"Machine Learning: Trends, Perspectives & Prospects"*
- 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