

# SAURABH MISRA

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## EDUCATION

### Carnegie Mellon University

Master of Science in Electrical and Computer Engineering

GPA 3.56/4.0

Selected Coursework: Introduction to Machine Learning (PhD), Cloud Computing

Pittsburgh, PA

May 2019

### Indian Institute of Technology (BHU)

Bachelor of Technology in Electronics Engineering

GPA: 8.21/10

Varanasi, India

May 2015

## SKILLS

Domains of competence: Machine Learning, Software development, Cloud Computing

Programming Languages: (Proficient) Python, C++; (Familiar) Java, Perl, C

Frameworks and tools: Tensorflow, Keras, Hadoop, Scikit Learn, Pandas, Matlab, GDB, Perforce, Git

## PROFESSIONAL EXPERIENCE

### Carnegie Mellon University, CyLab

Research Assistant

- Built a new efficient Deep Learning architecture for language models whose performance exceeds state of the art for password guessing and cracking. Also scaled up and improved performance of existing models.

Pittsburgh

May 2018-Present

### Singapore University of Technology and Design, iTrust Lab

Research Assistant

- Developed an LSTM based deep learning system to detect a particular kind of DDoS network attack utilizing time series data achieving attack detection precision of 0.998 and recall of 1.0.

Singapore

August-December 2017

### NVIDIA Corporation, Performance Tools Team

Architect

- Designed a Deep Learning based performance stats classifier to determine performance of full graphics workloads during chip RTL simulation. Created neural network and adversarial autoencoder models.
- Automated performance regression triaging using clustering. Formulated the problem, mined data, did exploratory data analysis and created unsupervised models to group similar failures.
- Built a tool from scratch to stream temporal performance data from any workload running on GPUs. The tool improved GPU driver's performance by 15% for async compute workloads.
- Developer of the primary performance tool in NVIDIA to analyze RTL and application performance on silicon.

Bangalore, India

July 2015-July 2017

## PROJECTS

### Novel Beatbox to drum track conversion app (Independent project)

June 2018-Present

- Developed a minimum viable product for an idea to record percussive hits and recreate a drum track using Machine Learning. Product uses an android interface with processing occurring on backend server.
- Currently leading a team of 2 college students, aiming to release it on the android play store in a few months.

### High Performance Twitter Analytics Web Service (CMU Course Project)

March 2018-April 2018

- Designed a cloud system in a team of 3 to recommend hashtags, find trending tweets and modify tweets over a distributed backend. The system passed all tasks during a live stress test.
- The project involved ETL over 1TB dataset, web servers and distributed databases.

## LEADERSHIP

- Chair, Masters Advisory Council, ECE, CMU (2018-2019). Will manage networking events in ECE dept.
- General Secretary of IEEE Students branch, IIT BHU (2012-2014). Led teams to organize technical events.
- Secretary, Western Music Club, IIT BHU (2014-2015). Led club members to organize national music festivals.