Tanay Varshney

[tanay@nyu.edu](mailto:tanay@nyu.edu) | [linkedin.com/in/tanayvarshney/](http://www.linkedin.com/in/tanayvarshney/)

# EDUCATION

# **New York University New York, USA**

*Master of Science in Computer Science. August 2018 – May 2020*

**University of Mumbai Mumbai, India**

*Bachelor of Technology in Computer Engineering August 2014 – June 2018*

# SKILLS

* **Machine Learning** – Tensorflow, PyTorch, Keras, Sckit-learn.
* **Computer Vision**: OpenCV, STL, Trimesh, opengl, MATLAB, C++
* **Analytics** – Python, R, Excel, Tableau, Spark, kafka, numpy, pandas, SQL, matplotlib, plotly. MongoDB, SQLite, Oracle Suite
* **Misc**: JavaScript, D3.js, Chart.js, Node.js, Azure DataBricks, ArcGIS, RaspberryPi, APM

# EXPERIENCE

**New York University, Tandon School of Engineering New York, USA**

*Research Assistant February 2019 –Present*

* Working on **3D point cloud generation**, **scaling data** collection, processing and analysis to manage **over 100GB** of image/3D and statistical data by building multithreaded systems and employing big data platforms.
* Working on Roof health prediction for over **70,000 structures** using remote sensing data
* Built a **pose and location** estimating model to aid visually impaired to navigate a plaza (NYC DoT)

**New York University, Robert F. Wagner Graduate School of Public Service New York, USA**

*Research Assistant October 2018 – May 2019*

* Mapped water sheds with **remote sensing data** and **spectral imagery** using 4 spectral bands with 90% + accuracy
* Designed a clustering model to categorize different sets of irrigation canals by **feature engineering 70+ features**.

**Indian Space Research Organization Mumbai, India**

*Machine Learning Intern. March 2018 – July 2018*

* Designed a **hybrid algorithm** for image **acquisition and analysis** by multiple **UAVs** (8 – 10) in **swarm formation** for Digital Elevation Map generation, re-mapping success rates by above 90%.
* Built **Image Stitching Engine**, 2D & 3D simulations, module to identify objects and scenes.
* Built **CNN based classifiers** using Tensorflow for Garbage, Pothole and Road detection with an accuracy of 92%.

## General Motors Bangalore, India

*Machine Learning Intern**June 2017 – July 2017*

* Worked with **L2 Automation** for **autonomous vehicles** with accuracy above 95% using MATLAB and PyTorch
* Trained over 10 professionals for PyTorch, Python and Machine Learning techstacks

## Parallax Labs LLP Mumbai, India

*Data Analytics Intern**October 2016 – February 2017*

* Designed a **real time data** production line **analytics** MR platform with latency less than 2 seconds using d3.js, R and unity.

# PROJECTS

**International Foreign Aid Data Visualization and Analysis**

* Used **International foreign aid data** of over 200 countries with over 15 key features to answer policy questions
* Built **interactive visualizations** using d3.js charts.js and Tableau

**MTA (Subway) traffic analysis for leveraging dynamic marketing**

* Developed an **end to end real time system** leveraging over **96 GB existing** of subway **ridership data** to perform targeted **advertisements**
* Built using Kafka, spark and MongoDB

**Portfolio Management**

* Designed **Deep reinforcement learning** to **manage a portfolio** of 10 stocks listed on NYSE using financial and news data
* Achieved a 75% return on investment over the period of 2 years on a starting capital of USD 10,000

**Credit Card Misuse Detection**

* **Detecting** possible **fraudulent transactions** from credit cards with an accuracy of over 99% using autoencoders trained over **credit card transaction data**.