

# Tanay Varshney

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## EDUCATION

### New York University

Master of Science in Computer Science.

New York, USA

August 2018 – May 2020

### University of Mumbai

Bachelor of Technology in Computer Engineering

Mumbai, India

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

Research Assistant

New York, USA

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

Research Assistant

New York, USA

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

Machine Learning Intern.

Mumbai, India

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

Machine Learning Intern

Bangalore, India

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

Data Analytics Intern

Mumbai, India

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**.