# Mrugank Milind Akarte

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## EDUCATION

**Columbia University** New York, NY Aug 2019 - Dec 2020

Master of Science, Data Science

Coursework: Probability and Statistics, Exploratory Data Analysis and Visualization, Algorithms for Data Science, Machine Learning and High Dimensional Data Analysis

**Vishwakarma Institute of Technology** Pune, IN Aug 2014 - May 2018

B.Tech. Production Engineering, CGPA: 9.44/10

Department topper for three consecutive academic years 2015-18

## SKILLS

R (keras, ggplot2, plotly, shiny, tensorflow, dplyr, shiny), Python (keras, tensorflow, numpy, pandas), Machine learning, SQL

## EXPERIENCE

**Ellicium Solutions Pvt. Ltd** **Data Science Intern** Jan 2018 - May 2018

- Data cleaning, manipulation and model testing for a customer retention project in Insurance domain.
- Problems faced: Imbalanced dataset with very low churn records, large number of missing values for certain variables etc.
- Used logistic regression, SVM, Random Forest, Neural networks, KNN and gradient boosting techniques to keep false positive rate within expected range required by client.
- Developed a submodule to capture data for real-time analysis of machine data using R.

## PROJECTS

**MNIST using Evolution Strategies** [Link] Dec 2019

- Trained a simple dense neural network model on MNIST dataset using evolution strategies.
- Achieved 80% accuracy on test set after training for 500 epochs.
- Implemented Vanilla, Antithetic and Finite forward difference estimators for gradient approximation.

**Exploratory Data Analysis Project on NATO Airstrikes during Kosovo War** [Link] Dec 2019

- We try to understand the effects of NATO airstrikes during war on people using various graphs like heat maps, time series plots, bar charts, mosaic plots.
- Created a D3 visualization depicting the casualties, killings and migrations for various regions.

**MineRL: Sample efficient reinforcement learning using human priors** July 2019

- Developed a reinforcement learning system to navigate to a diamond block in Minecraft using a provided dataset of human demonstrations.[Link]

**Toxic Comments Classifier** [Link] March 2018

- A multi-headed deep learning model capable of detecting different types of toxicity like threats, obscenity, insults, and identity-based hate was developed using recurrent neural networks on Wikipedia comments dataset. Achieved a mean column-wise AUROC of 0.978.

- Presented a paper 'Predictive Maintenance of Air Pressure System using Boosting Trees: A Machine learning approach', at 51st Operational Research Society of India 2018 International Conference at IIT Bombay. (Dec 2018)

## HOBBIES

Computer games, Music, Lawn Tennis, Movies