MRUGANK MILIND AKARTE

New York, NY 10027 (917) 900-8603
https://www.linkedin.com/in/mrugank-akarte/ mrugank.akarte@columbia.edu

EDUCATION

Columbia University New York, NY
Master of Science, Data Science Dec 2020
Relevant Courses: Machine Learning, Exploratory Data Analysis and Visualization, Probability Theory and Statistics, Statistical Inference, Algorithms.

Vishwakarma Institute of Technology Pune, India
Bachelor of Technology May 2018
Bachelor of Technology in Production Engineering, GPA: 9.44/10.00.

WORK EXPERIENCE

Macys New York, USA
Machine Learning Engineer- Product Recommendation Feb 2021-Present

- Developed and deployed "Complete the Look" recommendation model using Graph Neural Networks (GNNs) to enhance cross-selling opportunities for furniture products on macys.com.
- Engineered a GNN architecture capable of processing large-scale customer data, historical purchase behavior, and product attributes to create a comprehensive graph representation.
- Integrated the GNN-based model into platform's real time inference system, enabling instantaneous and personalized recommendations to customer based on their unique preferences and interactions.
- Technology used: PyTorch, Google Cloud, Kubernetes, Python, SQL, TorchServe

Ralph Lauren New York, USA
Data Scientist (Capstone Project) Sep 2020 – Dec 2020

- Developed a machine learning model for Ralph Lauren business team to predict propensity of return for items in cart.
- Investigated historical shopping and clickstream data to identify customer shopping and return behaviour.
- Visualized multiple product features and its effects on return behaviour.
- Designed models using AWS Sagemaker, AWS Athena, Python.

Nokia Bell Labs New Jersey, USA
Data Science Intern Jun 2020 - Aug 2020

- Devised an unsupervised CNN-LSTM autoencoder for anomaly detection and root cause(s) in multivariate time series.
- Model input were images of correlation matrices of different window lengths (short-medium-long term data) to capture spatial and temporal data simultaneously.
- Created model can be used to visually identify possible features responsible for anomalous behavior.
- Received Bell Labs summer intern award for outstanding innovation from president of Nokia Bell Labs.

Indian Institute of Technology, Bombay Mumbai, India
Research Assistant under the guidance of Prof. N Hemachandra Jul 2018 - Jun 2019

- Explored ML and reinforcement learning theory and different methods to solve imbalanced classification problem.
- Published a paper for ORSI conference on minimizing maintenance cost for Scania trucks utilizing public dataset available on UCI repository and observed upto 3x cost reduction when proper class weights model is utilized.

Ellicium Solutions Pune, India
Data Science Intern Jan 2018 - May 2018

- Conducted data cleaning, manipulation and model testing for a customer retention project in Insurance domain.
- Analyzed imbalanced dataset with low churn records, large number of missing values for certain variables etc.
- Deployed logistic regression, SVM, Random Forest, Neural Networks, KNN and gradient boosting techniques to keep false positive rate within expected range required by client.
- Devised a submodule using R to capture sensory data from machines for real-time analysis.

LANGUAGE AND IT SKILLS

- Languages: Proficient in Python, SQL, R; Familiar with C++, Java, HTML.
- Packages: Tensorflow, numpy, pandas, keras, scikit-learn, dplyr, shiny, matplotlib, ggplot2, seaborn, plotly.

DATA SCIENCE PROJECTS

Columbia University, Model Quantization using TensorflowLite Dec 2020 - Dec 2020

- Explored different quantization techniques post training quantization, quantization aware training and weights pruning. Observed up to 4x reduction in model size with minimal reduction in model performance.

Columbia University, Exploratory Data Analysis on NATO Airstrikes Kosovo war Dec 2019 - Dec 2019

- Created various visualizations using heat maps, time series plots, mosaic plots to understand effects of NATO airstrikes during war on people. Built D3 visualizations depicting killings and casualties.

Kaggle, Toxic Comments Classifier Mar 2018 - Mar 2018

- Developed a multi-headed model capable of detecting different types of toxicity in a sentence using RNNs. Achieved AUC- ROC of 0.978.