NILESH PATIL

M.S. in Data Science, University of Rochester

2017903854 | nilesh.patil@rochester.edu | nilesh-patil.github.io | nilesh-patil | Nilesh Patil

Graduate Projects, University of Rochester

- Analyzing large Graphical dataset:
  - Using NYC's transportation data (1 billion+ taxi trips), we built a large time variant network to analyze travel habits of residents and determining pressure points in this network
  - Using RNNs to predict demand at each node on dense, time variant geospatial transportation graphs (use case: NYC transportation network)
- Deep neural networks to identify **detailed galaxy morphology** from data accessible through SDSS (multi TB image dataset)
- **Content based image similarity** implementation for 10 million+ galaxies using deep learning
- **Exoplanet detection** from Kepler's datasets using deep neural networks (simulated data for training & testing on real data)
- Text extraction from heavily **degraded ancient manuscripts** using deep learning
- Random Forest based ML regression model for **predicting pollution level** from open data collected by federal agencies

Professional Experience

Data Scientist / Sr. Analyst, Predictive Analytics — **AXA (New York, US / Pune, India)** — **December '14 to June '16**

- Worked with AXA partners to develop machine learning based predictive analytics frameworks.
- At AXA, we used Hadoop stack for storage + manipulation & R/Python/SPARK for analysis. Aggregation & Exploratory analysis was done using HIVE/IMPALA & R/Python.
- Underwriting pipeline & KPI visualization using tableau.
- Mortality rate error minimization using actual historical dataset from AXA's customers & transactions.
- Promoting Data science community by organizing seminars, best practices sessions, machine learning & big data tools workshops for AXA-US & AXA-India.
- Mentoring & training colleagues in possible applications of machine learning & data science stack.

Analyst – Big Data/Predictive Analytics — **AbsolutData Research and Analytics** — **June '13 to December '14**

- Sensor & transactional data analytics: Extensive predictive analytics experience for a Mining equipment failure prediction project with one of the world's largest copper and gold mining companies.
- Developed multi stage prediction model for prediction of engine failure (~$850,000 per engine).
- Developed machine learning based predictive models for oil quality in heavy machinery. Used random forests in the final production implementation.
- Worked hands-on as R & Analytics resource on data management and data reshaping for the project using R, Hive queries & Hadoop. The data varied from Sensor data (13 TB) to Gigs of manually entered and unclean work order & maintenance data.
- Implemented an unsupervised learning algorithm which helped reduce false alarms for the mining major based on actual effect of alarms based on historical alarms & maintenance data.
- Trained 47 co-workers on using R as a part of the capability building program.
- Marketing mix modelling: Worked with Mondelez, Japan to analyze the impact of various marketing activities in the year on sales w.r.t investment made.

EDUCATION

Year	*Degree*	*Specialization*	*Institute*
2017	MS	Data Science	University of Rochester, USA
2013	B.Tech.	Metallurgical & Materials Engg.	Indian Institute of Technology - Roorkee, India

Skills

Programming : Python, R, SQL, Scala, Julia

Toolset : Numpy, Pandas, Scipy, Scikit-learn, ggplot2, plyr, dplyr, Spark, Tensorflow, Keras**,** Tableau for visualization, hands on experience with HIVE/IMAPALA queries, MapReduce using Python, Hadoop

Data Science & Machine Learning : Experience in solving business problems using machine learning techniques such as Random Forests, Neural Networks, Support Vector Machines, Gradient Boosted Regression, Linear Regression, Logistic Regression, Clustering Techniques (k-means, hierarchical clustering, knn etc), CNNs, RNNs