

# Mohit Mayank

## Data Scientist – Tata Consultancy Services

- 4 years industrial experience in the field of Data Science.
- AI/ML researcher with interest in GNN, NLP and recommendation systems.
- Winner of TCS SUPERCoder 2019 - a TCS wide coding competition.
- Technology content writer with the several AI/ML/Programming articles over at Medium and my website ☺

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## WORK EXPERIENCE

### IT Analyst

Tata Research Development and Design Centre, TCS

2016-Present

Pune, India

Projects: *Digitate and Intelligent Services Network*

#### *Data Science and Machine Learning solutions*

- Marathon prediction; profile NY marathon runner's normal behavior, create real-time model to predict runner's behavior in next race.
- Parcel sorting optimization; profile Scandinavian parcel company's operation, suggest improvements to minimize human effort & maximize profit
- Question/Answer chatbot; create domain knowledge graph, train question/answer chatbot to answer explicit/implicit questions
- Entity extraction; identify entities from structured/unstructured text data using statistical and contextual analysis
- System expert analysis; profile a system expert's work behavior, identify areas of best/worst performance, suggest the best expert for a task
- Resolution notes mining; profile notes of alert resolution by system experts, find patterns of similar behavior, create rule book to automate task in future
- Relevant nodes discovery; minimize number of jobs in batch environment without substantial adverse effect on batch prediction accuracy
- Recommendation System; design and implement system to suggest most promising products, maximize the future clicks and increase the profit of virtual store

#### *Areas and Algorithms*

- Reinforcement Learning; Deep Q-learning, multi-armed bandit, AC, A2C
- Computer Vision; Convolution NN, Object detection, contours, morphology
- Natural Language Processing; word2vec, knowledge graph, glove, RNN, LSTM
- Time-series; forecasting, change-point, anomaly, trend, periodicity, regression
- GNN; DeepWalk, Node2Vec, GraphSAGE, TransE, PinSAGE, DeepWalk, CPL
- Classification/Clustering; decision trees, random forests, XGBoost, k-means, hierarchical clustering, DBSCAN

#### *Customer Engagements*

- Procter & Gamble; analyze system alert data, determine the most affected areas and systems, recommendations to minimize future alerts by elimination or automation
- Credit Suisse; analyze bank's batch jobs, determine the cause of high SLA violation, recommendations to minimize SLA breach and making batch predictable

### Research Intern

Centre for Development in Advanced Computing

2015

Pune, India

#### *Task*

Design and develop IoT speech recognition engine in Indian languages and deploy it on low-power hardware as a low-cost solution for the rural population.

## PUBLICATION/ARTICLES

- Intrinsic analysis for dual word embedding space models (submitted to NIAI, 2021)
- A practical guide to RNN and LSTM in Keras (1k reads, 79 claps)
- Introduction to Linear programming with Python (34k reads, 227 claps)
- Building chatbot with Rasa (28k reads, 802 claps)
- Reinforcement Learning with Multi-Arm bandit (5.8k reads, 100 claps)

## EDUCATION

### Bachelor of Engineering (B.E.), Electronics and Telecommunication

Savitribai Phule Pune University  
(formerly Pune University)

2012-2016

Pune, India

## COURSES

- Andrew Ng's Machine Learning (Coursera)
- Intro to Artificial Intelligence (Udacity)
- Deep Learning: Advanced Computer Vision (Udemy)
- Deep Reinforcement Learning (UC Berkeley)
- Statistical Learning (Stanford Online)
- Probabilistic Graphical Models (Stanford Online)

## ACHIEVEMENTS

### Rank 1 – TCS SUPERCoder 2019

TCS wide competitive coding competition

### Winner – Digitate Ideathon 2019

Topic: Log analyzer – Detect events, find anomalies and perform root cause analysis

### Runner up – Digitate Ideathon 2018

Topic: Interactive learning interface – asks relevant questions to build knowledge graphs

### “On the spot award”

For excellence in quick solution proposal and fast deployment

### “Star team award”

Collaborative effort for problem management

### “Special Initiative award”

Displaying out-of-the-box thinking

## SKILLS

Python/R

AI/ML/Data Science

Mathematics

Algorithms

Tensorflow/Keras/PyTorch

AzureML

Knime/H2O

Spark/Databricks