

# GYANESH GUPTA

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## EDUCATION

Bachelor of Technology

Indian Institute of Technology, Kanpur

📅 July 2014 – May 2018

CGPA : 7.5/10

## PROFESSIONAL EXPERIENCE

Member of Technical Staff

Advanced Analytics ( Oracle Pvt. Ltd. )

📅 July 2018 – Present

📍 Bengaluru, India

- Developed algorithms such as K-Means and Sampling using **Java Spark API** as a part of Oracle Advanced Analytics Product
- Enhanced the current Neural Network in the product by including advanced optimizers, regularization methods and various learning rate changing methods
- Involved with constant maintenance of the Oracle R Connector for Hadoop, including periodic bug fixing

Research Intern

Samsung R & D Institute

📅 May 2017 – July 2018

📍 Noida, India

- Detected the core points of fingerprint images using **Gradient Orientation Map** at an accuracy of upto 95 %
- Implemented various fingerprint matching algorithms available in literature, using different datasets
- Applied Biohashing to fingerprint features to improve equal error rate from 8.6 % to 1.5 %
- Demonstrated on real life data of 70 employees and proved that Biohashing can be successfully deployed

Winter Exchange

Tomsk Polytechnic University

📅 December 2016

📍 Tomsk, Russia

- Studied about Genetic Algorithms, Swarm Optimization and other heuristic based algorithms
- Studied about Neural Networks, and played with libraries such as Tensorflow and Pytorch
- Classified **Russian Alphabets** by using improved initialization using Genetic Methods for the weights to be used in a CNN architecture

## PROGRAMMING/SCRIPTING LANGUAGES

C/C++ Python

Java, R, Bash

Matlab, HDFS, Javascript



## LIBRARIES, FRAMEWORKS

Scikit-Learn, Spark API, Keras

Tensorflow, NLTK

Django, Android SDK



## MAJOR PROJECTS

Latent Space in VAE

- Designed a novel Variational Autoencoder architecture to address problem of mode collapse and latent space saturation
- Implemented above on Monet's paintings and his associates to study their artistic style through latent space

Soccer Win-Loss Prediction

- Developed a soccer match predictor, using previous 10 years Premier League Data for different teams
- Designed a simple way of creating feature vectors for a team (team2vec) using different match statistics and ran different algorithms on them

Memory and Time Intensive Queries in Large Graphs

- Developed simple algorithm to optimize graph Reachability Queries in large graphs
- Used a hybrid approach between Reachability Matrix and Bi-directional BFS, with the help of a non-deterministic Monte-Carlo heuristic to process reachability queries

Personality Traits Estimation

- Estimated Big-Five Personality Traits via regression using various phone call data features
- Created a simple app to extract phone call data

Internet Usage and BMI

- Drew correlation between BMI of an individual and his internet history using basic Text-Mining and Document Classification (LSA)

Text-Mining in Hindi

- Implemented a simple Bag-of-Words Model, Word Sense disambiguation on Hindi Text to classify different News Articles

Quora Insincere Classification Kaggle

- Used bag-of-words, pre-trained Embedding weighted with tf idf, and LSTM to classify between sincere and insincere questions on Quora.

## OTHER PROJECTS

- Implemented a train Recommender System, which uses simple curve-fitting over Weibull distribution and significance tests.
- Artistic Style Transfer using VAE-GAN, simple adjustments to run on custom dataset
- Basic Compiler for Lua Language using Lex and Yacc
- Added system calls, page replacement policies and job scheduling to NachOS Operating System
- Read about recent papers on NLP, including Transformer, BiDAF, BERT