Praphul Singh

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EDUCATION

IIT KANPUR
Btech in Electrical Engg.
Expected 2019| Kanpur, India
CPI: 7.9/10

GURU NANAK SCHOOL
Intermediate
2014| Kanpur, India
Percentage: 94.8

ASSUMPTION PUBLIC SCHOOL
Matriculation
2012| Gorakhpur, India
CGPA: 9/10

LINKS

Github:// **spraphul**
LinkedIn:// **spraphul555**

SKILLS

PROGRAMMING LANG.
C/C++, MATLAB, Python

OPERATING SYSTEMS
Windows,Linux(Ubuntu)

SOFTWARES & TOOLS
Octave GNU,
MATLAB,Tensorflow,Solidworks,
Git

INTERESTS
Deep Learning, Classical Machine Learning, Algorithms, Probability

KEY COURSES

COMPUTER SCIENCE
Data Structures & Algorithms(ESO207)
Fundamentals of Computing(ESC101)

MATHEMATICS
Probability and Statistics(MSO201)
Linear Algebra and ODE(MTH102)
Partial Differential Equations(MSO203B)
Complex Varialbles(MSO202A)

ELECTRICAL ENGG.
Introduction to Electronics(ESC201)
Microelectronics-I(EE210)
Control Systems Analysis(EE250)
Introduction to Electrical Engineering(ESO203)
Signals Systems and Networks(EE200)

ACADEMIC ACHIEVEMENTS

JEE | Advanced
2015 | India
- All India Rank 555 among 1,50,000 candidates

JEE | Mains
2015 | India
- All India Rank 1388 among 15,00,000 candidates

PROJECTS

HAND GESTURE RECOGNITION | Under Prof KS Venkatesh
June 2017 - July 2017
•Designed a model based on Linear Discriminant Analysis algorithm to train EMG signals and predict the gesture corresponding to the signal
•Common spatial patterns were used for some signals to improve the accuracy
•Controlled vlc media player and MS powerpoint through hand gestures

EMG TO SPEECH CONVERTER | Under Prof KS Venkatesh
June 2017 - present
•Designed a model based on One vs All algorithm to train EMG signals and predict the words corresponding to the signal
•Common spatial patterns were used to improve the accuracy of the model
•Used Google's text to speech API to convert the output in sound signal
•Working on improving the mode of feeding signal using real time signal processing and will hopefully complete it soon
•This project can be helpful in medical purpose for peoples who try to speak but are unable to do so because of defective vocal chords.

IMAGE DETECTION MODEL FOR CARS IN INDIA | Summer Project
June 2017 - present
•Learnt the basics of Deep Learning and used Tensorflow to build a model which detects an image of a car and outputs its brand and model with an accuracy of 80%
•Built our own data set consisting of over 1,00,000 images of 14 brands
•Used Transfer Learning to retrain the Inception-v3 model and added an extra hidden layer of 14 units corresponding to 14 brands to detect the models of each brand
•Increased the accuracy by using a separate model based on sliding windows to detect the brands using the logo as a feature
•Working to build a LSTM based model to enable image captioning and develop an Android application to implement the whole idea.

EXTRA CURRICULARS

NSS | Under Prof. H.C Verma
Aug. 2015 - Apr. 2016
•Delivered lectures to High School Students, prepared scientific projects for demonstration, conducted examinations, prepared hindi version of the Book (Concepts of Physics by H.C Verma)