SARTHAK RAJWANSHI

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COURSE	INSTITUTE	% / CGPA	YEAR
B.E. (Hons.) Computer Science Engineering	Birla Institute of Technology and Science, Pilani	7.93	2015-19
XII	Step by Step High School	93.8%	2015
X	Maheshwari Public School	9.0	2013

TECHNICAL PROFICIENCY

- **Languages:** C, C++, JAVA, Python
- **Skills:** Machine Learning

WORK EXPERIENCE

- **Indian Red Cross Society (23rd May – 14th July, 2017)**
  - Worked as a volunteer in Tuberculosis program of IRCS

PROJECTS

- **Complex Event Processing: Occupancy Detection** ***(under Prof. Chittaranjan Hota, CSE dept.)***
  - A funded IoT research project which aims to develop techniques for dynamically updating a Complex Event Processing engine according to user's behavior using Machine Learning algorithms
  - Trained a sequential Neural Network with 2 hidden layers to detect the occupancy of the room using Temperature, Humidity, Light and CO_2 sensors as inputs
  - Achieved accuracy over 99.2%
  - Ongoing: Devising and working on new techniques to further improve its accuracy

- **Optimal Transit Route Search in Maps**
  - Implemented A* algorithm to find optimal route and estimated time of travel between any two localities of a city
  - Used Google distance matrix and Openstreet API for creating graph of the target city

- **Visual Perception of Pathways using Deep Learning**
  - Trained a Convolutional Neural Network with 3 Convolution layers which can add self-driving capabilities when deployed on a vehicle (accuracy- 81%)
  - Built using Tensorflow library in python

- **Search Engine for News articles**
  - Search engine was implemented using Vector Space model to output relevant documents according to the user's free text query
  - Tf-idf algorithm was used to generate the vectors used by Vector Space model

- **Movies Recommender System**
  - Used Item-Item Collaborative Filtering technique to recommend movies to the user
  - Developed using Python without using any libraries which solves the core purpose of the algorithm

- **Face Recognition- Feed Forward Neural Network**
  - Trained sequential Neural Network with one hidden layer to determine person's identity (accuracy-93%)
  - Coded in C++, no existing machine learning libraries used

- **Sentiment Analysis of Movie Reviews**
  - Built a Naïve Bayes Classifier to classify new document's sentiment as positive or negative
  - Developed using C++ without using any libraries

EXTRA CURRICULAR ACTIVITIES

- Core member of CRUx - Programming club of BPHC
- Member of Photog Club

ACHIEVEMENTS

- National Talent Search Examination Scholar (2013)
- Kishore Vaigyanik Protsahan Yojna – Stage I (2014)