

# Ambesh Shekhar

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## EDUCATION

### BIT MESRA

B.E IN COMPUTER SCIENCE  
AND ENGINEERING  
2017-Present

## COURSEWORK

### UNDERGRADUATE

Fundamental of Data Structure  
Object Oriented Programming  
Advanced Design and Analysis of Algorithms  
Artificial Intelligence  
Operating Systems  
Database System  
Computer Networks  
Computer Structure and Architecture

### INDEPENDENT

Machine Learning Course (Coding Blocks)  
CS 229 Machine Learning  
CS 230 Deep Learning  
Natural Language Processing Tensorflow (Coursera)  
Improving Deep Learning Network(Coursera)  
Sequence Model(Coursera)

## SKILLS

### PROGRAMMING

- C/C++ • Python • Java
- R • Android • Dart
- Javascript

### SCIENTIFIC LIBRARIES

- Keras • Tensorflow • Pytorch
- Scikit-learn • Pandas • Numpy
- NLTK • Librosa • OpenCV

### SOFTWARE AND TOOLS

- PyCharm • Arduino • Raspbian
- Flutter • Android • MATLAB

### PERSONALITY SKILLS

- Leadership • Communication
- Management • Team Work

### LANGUAGE

- Native Hindi
- Advanced English
- Basic French

## PROJECTS

### MemSem: A Multimodal framework for sentiment analysis Feb 2020 - Present

MemSem is a neural network project which determines the sentiment analysis of posted memes. Working on improving the accuracy and training on huge datasets.

- Based on Multimodal neural network(Visual and Textual).
- Works on images and OCR extracted text from memes.
- Trained on multimodal network of VGG19 and BERT-based model.
- Determines sentiment of memes.

### QuesBELM: A BERT based Ensemble Language Model for Natural Questions March 2020 - Present

QuesBELM is question answering system that can help in answering to any queries. The Ensemble network provides better result with an F1 score of 71%. Working on data preprocessing and optimization methods to increase the accuracy in answering right answer.

- Based on Ensemble neural network(Visual and Textual).
- Comprises of BERT-base , BERT-large and ALBERT-XXL fine tuned on SQUAD.
- Trained on Google's Natural Question Dataset which consists of queries from google and respective article to the query from wikipedia.
- The system provides better results compared to its predecessor like A BERT Baseline for the Natural Questions

### DeafDance Jan 2020

DeafDance is UI based script to understand sign-languages. Working on image segmentation and calibrations of pixels in the images and trying pre-trained models.

- Based on image processing and Computer vision.
- CNN trained on 2515 hand-sign images.
- Deployed with UI created using openCV.
- Predicts the gesture from webcam.

### hiLyted Dec 2019

hiLyted helps in creating highlights of matches from the given sources, covering up the best moments of tournaments and games

- Based on Speech Analysis
- Processes audio from the video using Librosa.
- Clips match videos using moviepy.

### Pothole Detection June 2019

Pothole Detection is full scale ML engine for real-time pothole detection. Working on the con- currency issue in the RCNN and increasing the accuracy of the output.

- Based on Masked-RCNN.
- Captures images using Raspberry-Pi and processes those images.
- Predicts pothole in the way by using trained model imported from AWS sagemaker.

## EXTRA-CURRICULAR

### Technical Club : Electronics and Communication

#### | SECRETARY AND TECHNICAL SUPPORT

Oct 2019 –Present

- Held Xordium. A technical festival for technology nerds presenting their projects.
- Held a workshop on Competitive Programming and Machine learning workshop.

## ACHIEVEMENTS

- **2nd Position in Internal Hackathon for SIH-2020**