

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)
Sequences, Time Series and Predictions(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**