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
Software Engineering
System Programming
Compiler Designs and Principles
Computer Graphics and Design
Software Project Management

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

EXPERIENCES

Research Assistant Jan 2020 - Present

Research Assistant under Professor Smita Pallavi, working on researches related to multi modality, natural language processing and computer-vision.
• Published QuesBELM: A BERT based Ensemble Language Model for Natural Questions in ICCCS2020.
• Published MemSem: A Multimodal framework for sentiment analysis in IEEE BigMM2020.
• Working on a journal on Application of Drones and use of Computer vision for surveillance.

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.
• 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
March 2020 - Present

QuesBELM is a natural question answering system that can help in answering to any queries. It uses ensemble methods and application of BERT models.
• 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

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
| Secratary 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**