

Bhanu Pratap Mishra

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SKILLS AND COMPETENCIES

Technical: Machine Learning, Deep Learning, Python, Image Processing, Natural Language Processing, Decision Tree, Random Forest, SVM, TensorFlow, Keras, Pandas, NumPy, Seaborn, Matplotlib, Clustering, SQL, Linux.

Certifications/ CourseWork: AppliedAI(a Scaler's subsidiary)(persuing), Data-Structure with python NPTEL, NTA UGC-NET.

EDUCATION

B.Sc (PCM) : june 2011 to july 2014 From Lucknow University.

MCA : june 2017 to july 2021 From IGNOU.

ACADEMIC PROJECTS

Implementing DenseNet

- Objective: Implement a Dense-Net model with 100 layers with less than 1 Million parameter and without Dropout layer on CIFR10 Dataset.
- Analysis: Perform Data augmentation with ImageDataGenerator.
- Models: Built DenseNet-BC 100 model where Bottleneck and compression features are used to classify the CIFR10 Dataset images. Model contain 3 Dense Block, 2 Transition Block and one Output Block, growth rate used is 14 .
- Results: The Metric used is Accuracy, the model achieve 90.5 validation accuracy with loss function as log loss and validation loss as 0.484.
- Use-cases: The DenseNet architecture can be used in place of other state of the art architecture such as resnet to train Deep CNN models.

Text Classification with CNN

- Objective: Developed Model To classify Text Using CNN.
- Analysis: Text Preprocessing with regex, Chunking, Part-of-speech tagging.
- Models: Built Model which used 1D-CNN to classify text, text is converted to vector with embedding layer, used prebuilt Glove vectors for text to vector conversion.
- Results: Metrics used is f1_score and accuracy, model achieve validation accuracy of 0.72 and validation f1_score of 0.72.
- Use-cases: The model can be trained to classify various types of texts into their respective classes.

Transfer Learning with VGG-16

- Objective: Developed Model Using VGG-16 to classify documents based on their images.
- Analysis: Use ImageDataGenerator for loading huge data into batches with flowfromdirectory method.
- Models: Built Model by changing the classification layer of VGG-16 with custom layer and retuning it to fit the dataset .
- Results: Metrics used is accuracy, model achieve validation accuracy of 0.71.

Microsoft Malware Detection

- Objective: Developed Model to classify Malware type with given Malware's 'text' and 'asm' files Using XGBoost Classifier .
- Analysis: Feature extraction, univariate analysis, TSNE for multivariate analysis, class distribution.
- Models: Built Model with XGBoost Classifier over the combined features from 'text' and 'asm' files.
- Results: Log loss is used as metric, Model achieve test log loss of 0.012.
- Use-cases: The model can be used to classify Malware types based on their text and asm files.