|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| SL NO. | YEAR | TECHNIQUES USED | | | DATASET | Paper Name | RESULT |
| Pre-Processing | Feature Extraction | Classification |  |
| 1 | 2021 | Self supervised training9setting of batch size,temperature value, optimizer | Network Training | Deep learning  CONVOLUTIONAL NEURAL NETWORKS(CNN) | CheXpert | Self-Supervised Deep Convolutional Neural Network for Chest X-Ray Classification | achieved an AUC of 97.7% on the Cell dataset and outperformed ImageNet-based transfer learning |
| 2 | 2015 | Image Resizing, Background Removal,Contra-st Enhancement, Linear Scaling,Intensity Widowing | CBSF(contur based shaped feature,PHOG(pyramid of histogram of gradient, Body Size ratio | SVM | chest X-ray DICOM  IRMA, NLM dataset | Chest X-ray Image View Classification | method for classifying frontal and lateral chest X-ray images, achieving accuracy (above 99%) on both dataset. can be integrated into a CAD system for tuberculosis screening, especially in resource-poor areas |
| 3 | 2021 | Image Resizing,  Gray scaling, Resolution reduced | VGG-16, DenseNet-161, and ResNet-18 used in deep learning cnn layer | VGG-16, DenseNet-161, and ResNet-18. | Chest Xray of Clinico Diagnostic Lab, Mumbai | Chest X‑ray Classifcation Using Deep Learning for Automated COVID‑19 Screening | 99% accuracy in differentiating between pneumonia and COVID-19 in chest X-ray images using DenseNet-161. For COVID-19 severity classification, ResNet-18 achieved a 76% accuracy |
| 4 | 2019 | Image Resizing, Data Augmentation(Horizontal flipping),Norm-alisation | denseNet-121 | SVM, Logistic Regression | CHESTX-RAY14 DATASET,  CHEXPER DATASET | Novel Approach for Multi-Label Chest X-Ray Classification of Common Thorax Diseases | applying problem transformation methods like Binary Relevance (BR), Label Powerset (LP), and Classifier Chain (CC) for multi-label CXR classification. BR achieved the best results with a micro-averaged F1 score of 0.561 on ChestX-ray14 and hamming loss of 0.116 on CheXpert. |
| 5 | 2020 | Data Augmentation, Data splitting,  Histogram modification | Shallow tuning mode(Image net),feature space construction,  PCA | K means clustering, creation of dataset B | Japanese Society of Radiological Technology (JSRT),  COVID-19 and SARS | Classification of COVID-19 in chest X-ray images using DeTraC deep convolutional neural network | accuracy of 98.23% using the VGG19 pre-trained model. Results demonstrated the effectiveness of class decomposition in transfer learning, outperforming other pre-trained models |
| 6 | 2022 | Image Masking, Histogram equalisation, Gaussian blur, bialeteral filter |  |  | **COVID19\_Pneumonia\_Normal\_Chest\_Xray\_PA\_Dataset** | Preprocessing in chest xray classification | ccuracy exceeding 97% when combining histogram equalization, Gaussian blurring, and adaptive masking |
| 7 | 2022 | Data Augmentation, Rotation, Horizontal and vertical flipping | Efficient Net B1, Mobile Net V2,  Nas net mobile | Batch normalisation, Dense layer1, Dropout layer | **COVID19 public dataset** | Chest X-ray Classification for the Detection of COVID-19 Using Deep Learning Techniques | EfficientNetB1, with regularization techniques, outperformed other models, achieving a test accuracy of 96.13% in classifying chest infections from X-ray images. |