| Sl. No | Citation | Methodology | Dataset | Result | Merits and Demerits |
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| 1. | Deep learning based detection and analysis of COVID-19  on chest X-ray images  **Rachna Jain,**  **Meenu Gupta,**  **Soham Taneja,**  **D. Jude Hemanth** | In this paper, the authors used three deep learning models **Inception V3**, **Xception** and **ResNeXt** to classify **Chest X-ray images** into three categories **Normal**, **Covid** and **Pneumonia**.  **Steps:**   1. Pre-processing of image: reshape, random rotation, horizontal flip, zoom 2. Apply the image to input of pre trained model 3. Fetch output from previous step, flatten dimensions 4. Apply dense layer and LeakyReLU activation function 5. Apply dense layer for inference 6. Apply softmax layer | **Chest X-ray Dataset** (Source: [Kaggle](https://www.kaggle.com/prashant268/chest-xray-covid19-pneumonia))   * Total: **6432** * Training: **5467** Normal: **1345**   Covid: **490** Pneumonia: **3632**   * Validation: **965**   Normal: **238**  Covid: **86** Pneumonia: **641** | **The Xception net** showed the best performance among the models.  **Xception net:**   * F1 score:   Training:  Normal: **1.00**  Covid: **1.00**  Pneumonia: **1.00**  Testing:  Normal: **0.95**  Covid: **0.95**  Pneumonia: **0.98**   * Accuracy:   Training: **100%**  Testing: **97%**  **Inception net V3:**   * F1 score:   Training:  Normal: **0.99**  Covid: **1.00**  Pneumonia: **1.00**  Testing:  Normal: **0.92**  Covid: **0.96**  Pneumonia: **0.97**   * Accuracy:   Training: **99%**  Testing: **96%**  **ResNeXt:**   * F1 score:   Training:  Normal: **0.98**  Covid: **0.95**  Pneumonia: **0.99**  Testing:  Normal: **0.90**  Covid: **0.86**  Pneumonia: **0.95**   * Accuracy:   Training: **98%**  Testing: **93%** | **Merits:**   * The performance of the models in this paper is very high. * Since the actual testing of covid19 is costlier, this method can be used to prioritize patients who should undergo real covid19 tests. * Finally, the Xception Net model provides an accurate estimation in covid detection.   **Demerits:**   * Since the dataset size is very small, the models suffer from overfitting which is an issue for testing data. |