Automated Detection of Lung Diseases through Enhancement of Chest X-Ray Images

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Abstract: *Covid-19 has brought about a significant disruption in all spheres of life, be it healthcare, lifestyle, work environment, etc. Its prominent effect was seen in healthcare sector where it exposed various vulnerabilities which went unnoticed till now. People around the world were already exploring the applications of AI/ML/DL in healthcare including computer aided diagnosis. Pandemic brought about a phase shift in this and now aided the same. Inspired by the wave of Computer aided Diagnosis and its promising applications we propose a Deep Learning model which can automate and thereby speedup the process of lung disease diagnosis. In this model we use Deep Learning model, this supervised learning technique promise a good accuracy. Dataset balancing techniques such as Image Augmentation and tuning of hyper-parameters was done to improve training and consequently the validation accuracy. The presented model can be used to provide a quick and reliable diagnosis of the diseases stated.*

Keywords: Deep Learning; Computer Aided Diagnosis; Chest X-Ray Images; Convolution Network; Pneumonia; Image Classification; Computer Vision

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