Seminar

Institute for Plasma Research

Title : Detection of Pneumonia clouds in Chest X-ray using Image processing approach

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Date : 25th April 2018 (Wednesday)

Time : 11.15 AM

Venue : Seminar Hall, IPR

Abstract :

Finding ways to automate diagnostics from medical images, has continuously been one of the most interesting areas of software development. This article presents a novel approach for detecting the presence of pneumonia clouds in chest X-rays (CXR) by using Image processing techniques. The data for this software, is 40 analog CXRs – 20 each of healthy individuals and Pneumonia-infected patients. Indigenous algorithms have been developed for cropping and for extraction of the lung region from the images. To detect pneumonia clouds Otsu thresholding has been used, which will segregate the healthy part of lung from the pneumonia infected cloudy regions. We have computed the ratio of area of healthy lung region to total lung region to establish a result. The task has been performed using Python and OpenCV as they are free, open source tools and can be used by all, without any legality issues or additional software procurement costs.