

# Lung Disease Detection Using Machine Learning

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**Abstract:** *The application of contemporary technologies is important to medical progress. To create accurate and specialized treatment choices for a range of ailments, extensive study performed in partnership with researchers, health care professionals, and patients is important and to spread awareness. This study aims to identify the degree of accuracy that is acceptable in the medical sector by using machine learning on publicly available data and give safety precautions. First, we extracted spectrogram features and labels from annotated lung sound recordings to feed into our 2D Convolutional Neural Network (CNN) model. In this paper, we solve the problem of medical data scarcity by identifying pulmonary diseases from chest X-Ray pictures using small volume datasets with less than a thousand samples. Several studies have been conducted on the application of machine learning to identify lung disease have been published in the literature. A review of various typical machine learning network topologies used in medical image processing is also provided. Trend analysis, on the other hand, gives an overview of the research direction of the area of interest that has been emphasized in previous work.*

**Keywords:** Lung Disease Detection, Machine Learning, Pneumonia Detection Using Machine Learnings, ESP 8266 NODE MCU, 0.96 OLED

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