

An Abstract

On

DETECTION OF PNEUMONIA USING NEURAL NETWORKS

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ABSTRACT

Pneumonia is a common and potentially life-threatening respiratory infection that affects millions of people worldwide, particularly children and elderly individuals. Early detection and accurate diagnosis of pneumonia are crucial for effective treatment and reducing mortality rates. However, traditional diagnosis of pneumonia from chest X-ray images requires expert radiological interpretation and may be time-consuming and prone to human error.

In recent years, machine learning and computer vision techniques have demonstrated significant potential in automating medical image analysis. In this project, we propose a deep learning-based approach for the detection of pneumonia using chest X-ray images. Pretrained convolutional neural network models such as **VGG16, ResNet50, and InceptionV3** are employed for feature extraction and classification due to their proven effectiveness in image recognition tasks.

The dataset used in this study is obtained from the **Radiological Society of North America (RSNA)** and consists of chest X-ray images categorized into training, validation, and testing sets. The proposed models are evaluated using performance metrics such as **accuracy and loss** to determine the most efficient architecture. The objective of this project is to develop a reliable and efficient pneumonia detection system that can assist healthcare professionals in early diagnosis and support clinical decision-making.

PROJECT GUIDE

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