

Neural Network-Based Chest X-Ray Analysis for Heart Disease and Virus Detection

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Abstract:

The integration of neural networks in chest X-ray analysis has significantly advanced the early detection of heart diseases and viral infections, including COVID-19. Convolutional Neural Networks (CNNs) have demonstrated high accuracy in identifying cardiovascular anomalies and viral pneumonia by analyzing radiographic patterns. For instance, a study developed a deep learning model capable of predicting a patient's 10-year risk of heart disease using chest X-rays, achieving accuracy comparable to traditional risk assessment methods that require blood tests and blood pressure measurements. [cite]turn0news24[Similarly, CNN-based models have been employed to detect COVID-19 from chest X-rays, providing rapid and reliable screening tools that can assist in managing pandemics. [cite]turn0search0[These advancements highlight the potential of neural network-based approaches in enhancing diagnostic accuracy and efficiency in medical imaging. [

Keywords: Neural Networks, Chest X-Ray Analysis, Heart Disease Detection, Viral Infection Diagnosis, Convolutional Neural Networks, Medical Imaging [

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