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## Heart Attack Prediction using CNN

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**Abstract:** The study represents a significant advancement in cardiovascular disease detection by employing deep learning techniques, particularly focusing on Electrocardiogram (ECG) data analysis. By utilizing transfer learning with pretrained deep neural networks like SqueezeNet and AlexNet, alongside a novel convolutional neural network (CNN) architecture tailored for cardiac abnormality prediction, the researchers demonstrated remarkable accuracy in identifying four major cardiac conditions. This approach not only capitalizes on the strengths of deep learning but also addresses the challenges posed by limited medical datasets, showcasing the potential of artificial intelligence in revolutionizing healthcare diagnostics.

The results are highly promising, with the proposed CNN model outperforming previous methods, achieving exceptional accuracy, recall, precision, and F1 score. Furthermore, employing the CNN model for feature extraction in tandem with traditional machine learning algorithms highlights its versatility and potential for integration into clinical practice. Overall, this study underscores the pivotal role of deep learning in early detection and classification of cardiovascular diseases, offering healthcare professionals a powerful tool to improve patient outcomes and save lives

Keywords: Cardiovascular, Electrocardiogram (ECG), Machine Learning, CNN.

