

MalenoCare - Skin Cancer Detection and Prescription using CNN and ML

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Abstract: Machine learning (ML) and convolutional neural networks (CNNs) have driven significant advancements in healthcare, particularly in dermatology, by enabling the automation of diagnostic processes for skin cancer. Skin cancer, being one of the most common types of cancer, requires early detection and accurate classification to improve patient outcomes and reduce mortality rates. This review paper explores various studies and CNN-based tools that enhance skin cancer detection and support preventive care through image analysis. The paper also discusses the effectiveness of different CNN architectures, including VGG16, ResNet, and Inception, in achieving high accuracy rates in skin lesion classification. A combination of recent research findings, model evaluation metrics, and graphical data highlights the accuracy, interpretability, and real-world applications of ML models, offering insights into their potential for integration into clinical practice.

Keywords: Skin cancer detection, machine learning (ML), convolutional neural networks (CNNs), image classification, VGG16, Inception, skin lesion analysis, healthcare AI