

Skin Disease Prediction

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Abstract: *Skin diseases are prevalent worldwide, affecting individuals across all age groups and demographics. Accurate and timely diagnosis is crucial for effective treatment, but access to dermatological expertise can be limited, particularly in remote areas. Recent advancements in computer vision and machine learning offer promising solutions for automating the detection and diagnosis of skin diseases. This study presents an automated system utilizing state-of-the-art deep learning architectures, YOLOv8 and YOLOv5, to detect common skin diseases such as acne, chickenpox, and ringworm from facial images. The dataset, sourced from Roboflow, consists of annotated images representing these conditions. The data underwent preprocessing, including resizing and augmentation, to improve model robustness. The YOLOv8 and YOLOv5 models were trained on this dataset, achieving accuracies of 70% and 60%, respectively. Various optimization techniques, such as data augmentation, transfer learning, and hyperparameter tuning, were employed to enhance model performance. The system's efficacy was evaluated using metrics like precision, recall, and mean Average Precision (mAP). The results demonstrate the potential of deep learning models in skin disease detection, suggesting that further improvements can be achieved through the inclusion of more diverse datasets and advanced data augmentation techniques. The study underscores the importance of leveraging artificial intelligence in healthcare, particularly for remote diagnostics, and provides a foundation for future developments in this field..*

Keywords: Machine learning, deep learning, skin disease, you only look once, accuracy

