

Skin Disease Detection using Machine Learning

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Abstract: *Skin diseases represent a significant global health concern, with early detection being crucial for effective treatment. This research paper proposes a novel approach for skin disease detection utilizing machine learning techniques. The study employs a diverse dataset comprising images of various skin conditions, collected from medical databases and health institutions. The proposed system employs convolutional neural networks (CNNs) and transfer learning to extract intricate features from skin images. The model is trained to classify different skin diseases, offering a robust and accurate diagnostic tool. The research emphasizes the integration of interpretable deep learning models, facilitating insights into the decision-making process and enhancing trust in automated diagnostics. Performance evaluation is conducted using standard metrics such as accuracy, precision, recall, and F1-score. Comparative analyses with existing methods demonstrate the superiority of the proposed model in terms of accuracy and computational efficiency. Moreover, the research explores the potential for real-time deployment in clinical settings, providing a scalable solution for dermatological diagnostics. The outcomes of this study contribute to the advancement of computer-aided diagnostic systems for skin diseases, addressing the challenges of accuracy and interpretability. The integration of machine learning techniques in dermatology holds promise for improving healthcare outcomes, enabling early detection, and ultimately enhancing patient care in the field of dermatology.*

Keywords: Skin Disease, Machine Learning, Convolutional Neural Networks, Dermatological Diagnostics, Early Detection

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