AI Detector report by

QuillBot 2025-06-16 01:59 AM

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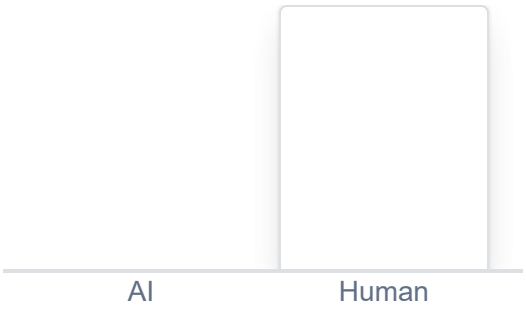
1,104 Words

Results

0%

of text is likely AI



AI-generated	0%
AI-generated & AI-refined	0%
Human-written & AI-refined	0%
Human-written	100%

Caution: Our AI Detector is advanced, but no detectors are 100% reliable, no matter what their accuracy scores claim. Never use AI detection alone to make decisions that could impact a person's career or academic standing.

"Skin Scan Pro"

Abstract
This project targets the development of a web-based skin cancer diagnosis system with node.js as the backend and React as the fronted. Users can upload pictures of skin lesions, which are analyzed by a trained deep learning model to classify as benign (non-cancerous) or malignant (cancerous).The system gives rapid, efficient, and easy access to preliminary results to help in early diagnosis .It educates users with comprehensive insights and promotes timely consultation with doctors. By providing data security and privacy, the app creates trust between users. The software is designed to increase awareness and enhance health outcomes in the battle against skin cancer

Introduction

“Skin Scan Pro” is a cancer detecting tool that detects the stages of the cancer by analyzing the lesion and predicts weather it’s a starting stage of it’s the middle or ending stage .It is a web based project based on machine learning algorithm.Node.js and react is used to upload the image to analyze the lesion . The system professionally works on the efficiency and accuracy to predict the stage of the cancer

Problem statement

The problem statement highlights the following key issues:

Delayed Diagnosis: Most individuals miss the early diagnosis of skin cancer due to their failure to notice its signs or their failure to approach medical experts at an early stage.

High Costs and Time: Traditional skin cancer diagnosis methods are typically founded on advanced technology and expertise, which may be expensive and time-consuming, presenting challenges to patients.

Accessibility Need: There is a need to provide affordable and accessible options that will enable people to achieve early potential skin cancer risks.

Literature review Background:

Studies indicate that early detection of skin cancer dramatically increases survival rates, but conventional methods are out of reach due to expense and dependence on experts. Machine learning, especially CNNs, presents promising solutions for automated, accurate, and accessible skin lesion analysis.

Current solution in the market:

Current skin cancer detection technologies are dermoscopy devices, mobile applications, and

machine learning platforms. Dermoscopy devices offer high-resolution images but need professional analysis and are usually costly. Mobile applications like SkinVision and MoleMapper employ simple algorithms for lesion detection but might not be highly accurate and offer complete analysis. Sophisticated AI-based systems provide improved classification but are usually part of medical systems, restricting access to commo n users. Moreover, data privacy and usability issues still pose major obstacles to current solutions.

Disadvantages of current solution:

- Most solutions are costly and need specialized hardware or expert inspection, restricting availability.
- Some solutions are inaccurate, resulting in possible misdiagnosis of lesions.
- Data privacy is a concern, with most platforms not offering adequate transparency about how health information is utilized.
- The intricacy of certain solutions renders them inaccessible to novices.
- Most existing solutions fail to give instant feedback, causing timely decisions about visiting a doctor.

Research Gap:

There is a wide gap in the provision of accessible, accurate, and real-time skin cancer detection solutions for the masses. Current tools tend to be based on expert analysis, which hinders their general use, and are not accurate enough to provide reliable early-stage predictions. Additionally, most solutions available today are either expensive or not easily comprehensible by non-experts, hindering early detection. Also, issues of data confidentiality and non-seamless integration into daily devices open to improvement. A more user-friendly, cheaper, and precise solution with immediate feedback and robust data confidentiality features is required to close this gap.

Project scope

The project scope is to create a web-based skin cancer detection system that uses machine learning to determine whether skin lesions are benign or malignant. The app will enable users to upload skin lesion images, which will be processed using a trained deep learning model. The project will implement the user interface with ease through React as the frontend and Node.js for the backend, providing a smooth interaction and real-time response. The system will also emphasize data protection and security, giving users assurance of using the platform. The project will offer a cost-effective, accessible, and accurate solution for early skin cancer detection, acting as a bridge between medical professionals and users requiring rapid preliminary results.

Value Proposition:

The project provide a low cost facility using machine learning to analyze the lesion to detect the

skin cancer .We upload the image of the detected area and get the fast , trustworthy results.

Expected Packaging:

Backend: Node.js will take care of the backend processing, such as image processing, interaction with the trained model, and making predictions.

Model Training and Prediction: Upon uploading an image, the backend will automatically process the image, run it through the pre-trained model, and give the prediction (benign or malignant) as well as the accuracy outcome.

Data Flow: There will be seamless data flow from the frontend (image upload) to the backend (model prediction and analysis) with real-time feedback to the user.

Project development methodology

To ensure the successful development of "Skin Cancer" a structured and flexible project development methodology will be employed.

Development Methodology: Agile

The Agile methodology is chosen for the development of "Skin Cancer". Agile allows for continuous feedback, adaptation to changes, and frequent delivery of functional components.

Development

• Frontend: Frontend development will be done using React.js, which has been chosen owing to its component-based architecture that offers flexibility and scalability.

• Backend: Backend development will be accomplished using Node.js combined with React, which has been chosen owing to its robust framework, security, and scalability.

• Model Training: The model will be trained to identify skin cancer by identifying if the skin lesion is benign or malignant through image analysis.

Project Milestones and Deliverables

User Registration and Profile Management Module

Secure user registration.

User profile management.

- Skin Lesion Image Upload Module:
- User interface to upload images of skin lesions.
- Real-time processing of images and feedback regarding lesion classification (benign or malignant).

Skin Cancer Detection System:

• Model Integration: Integrate the machine learning model to determine the type of skin lesion based on images uploaded.

• Prediction Results: Display instant prediction and accuracy outcomes for the uploaded skin lesions (malignant or benign).

• Model Training: Train the model to determine lesions using techniques such as Convolutional Neural Networks (CNNs) to interpret images appropriately.

Prediction Accuracy and Confidence:

- The system will show the prediction accuracy, with the model's classification confidence level (benign or malignant).
- Health Tips and Educational Resources Module:
- Content Management System for skin cancer awareness, prevention information, and general health articles.
- Search and filter feature for quick retrieval of the relevant resources.

Doctor Consultation and Appointment Module:

- User interface for booking medical appointments for more consultation.
- Doctor's dashboard for appointment and patient management.
- User Feedback and Improvement Module:

Gantt Chart:

Reference

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