VISVESVARAYATECHNOLOGICAL UNIVERSITY,

BELAGAVI - 590018

Mini Project Report

On

"DETECTION OF SKIN DISEASE USING DEEP LEARNING"

A report submitted in partial fulfillment of the requirements for

COMPUTER GRAPHICS AND IMAGE PROCESSING LABORATORY (21CSL66)

In

Computer Science and Design

Submitted by

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CERTIFICATE

This is to certify that the Computer Graphics and Image Processing Laboratory with Mini Project entitled **"DETECTION OF SKIN DISEASE USING DEEP LEARNING"** has been completed by

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The Bonafidestudents of the Department of Computer Science and Design, Alva's Institute of Engineering and Technology in the **DEPARTMENT OF COMPUTER SCIENCE AND DESIGN** of the VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI during the year 2023–2024. It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the report deposited in the departmental library. The Mini Project report has been approved as it satisfies the academic requirements concerning the Mini Project work of Computer Graphics and Image Processing subject prescribed for the Bachelor of Engineering Degree.

Dr. Pushparani M K
Mini Project Guide

Prof. Jayan Kumar A Rathod
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Name of the Examiner	Date and Signature
1. J.A Rathod - Jay	7/8/24
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ABSTRACT

This prototype web application uses computer vision to assist in the early detection of various skin lesions, including potentially cancerous ones. Leveraging a Deep Learning model implemented with Tensorflow.js, the app analyzes images in jpg or png formats directly on the user's device, ensuring privacy and rapid results. It can identify multiple types of skin lesions, such as melanocytic nevi, melanoma, benign keratosis, basal cell carcinoma, actinic keratoses, vascular lesions, and dermatofibroma. Despite its capabilities, the model is not yet accurate enough for real-life medical use, as it often fails to consistently assign the highest probability to the correct lesion. Additionally, the model's performance can be affected by the quality of images, particularly those taken with mobile phones, since it was not trained on such photos.

For the tool to become more reliable, three key improvements are necessary: collaboration with dermatologists or pathologists, access to more high-quality labeled training data, and extensive field testing. These steps would help validate the model's predictions, enhance its robustness, and ensure its performance under real-world conditions. The project emphasizes data privacy by processing images locally on the user's device, avoiding external server interactions. The development process and test results are documented on Kaggle, and the source code is available on GitHub under an open-source license. While promising, the application requires further refinement and validation to be a trustworthy diagnostic tool in clinical settings.