



EARLY DISEASE DETECTION USING NAIL IMAGE PROCESSING

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INTRODUCTION

- Nails indicate health and diagnose various diseases.
- Nail colour and shape reveal overall well-being and identify disorders, including anaemia, liver dysfunction, fungal infections, and oxygen deficiency.
- Developing a model for diagnosing and treating nail disorders at early stages

OBJECTIVES

- Non-invasive, low-cost, and accessible method for early disease detection
- Improved accuracy of disease detection
- Provide a low-cost alternative

LITERATURE REVIEW

SL. no	Title	Authors/Years	Description
1	Early stage disease diagnosis system using human nail image processing.	Indi, T. S., & Gunge, Y. A. (2016)	Proposed a system using the c4.5 algorithm and observing nail colour changes for disease diagnosis achieved 65% accuracy on seven types of nails.
2	Image segmentation techniques to detect nail abnormalities.	Saranya, V., & Ranichitra, A. (2017)	Segment the nail image using Watershed, Thresholding, and K-means segmentation techniques in this paper.
3	Application of Digital Image Processing and Analysis in Healthcare Based on Medical Palmistry.	Hardik Pandit, & D M Shah (2011)	The system analyzes image features and predicts diseases using medical palmistry, but analyzing nails will take more time due to time-consuming image enhancement methods.

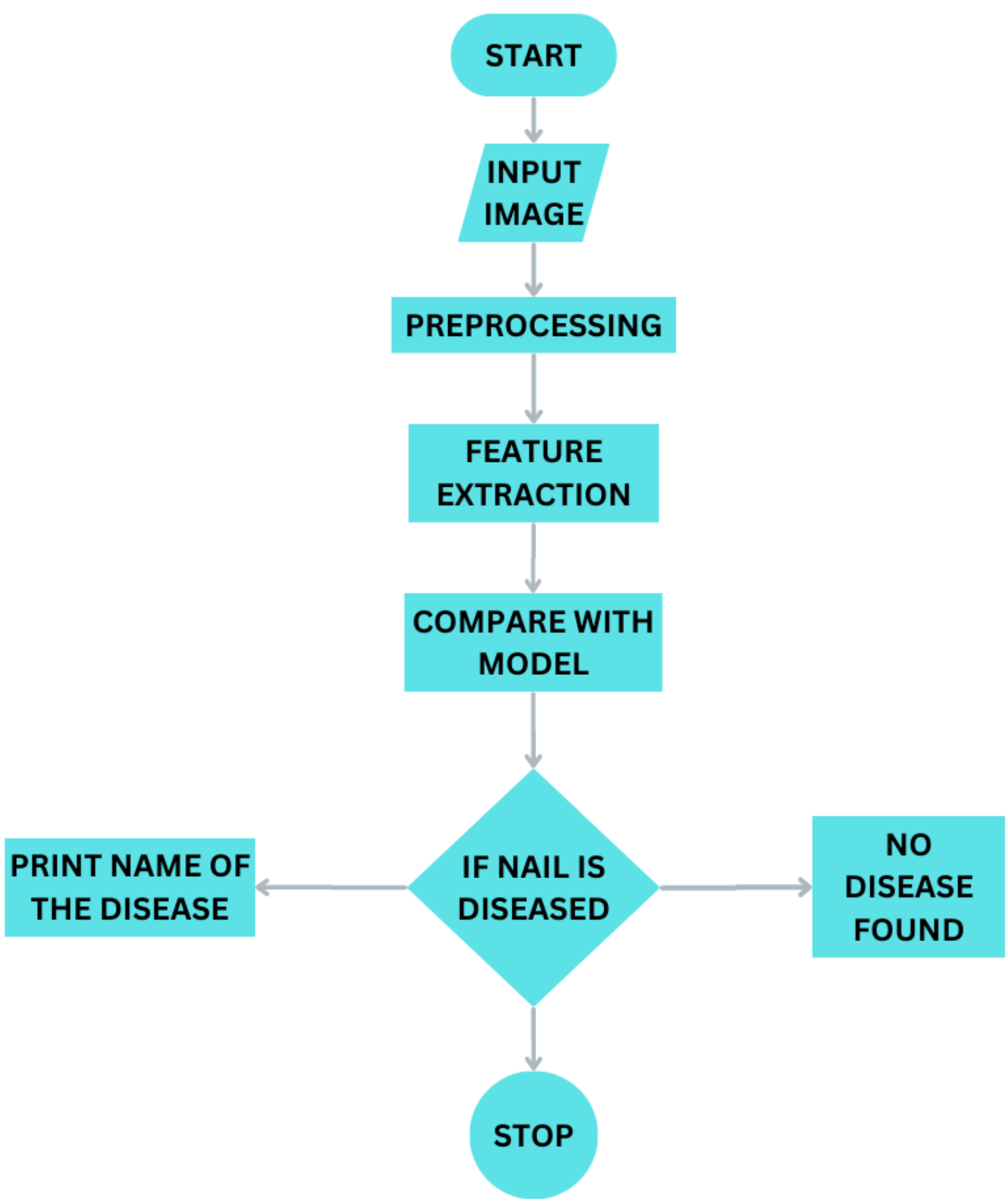
CONTRIBUTION

- We use 17 types of nails images
- create an intuitive web application interface.
- conduct 50 iterations of the training model.

ALGORITHM

- CNN-BASED VGG-16 MODEL
- It has 16 layers i.e., 13 convolution layers and 3 fully connected layers

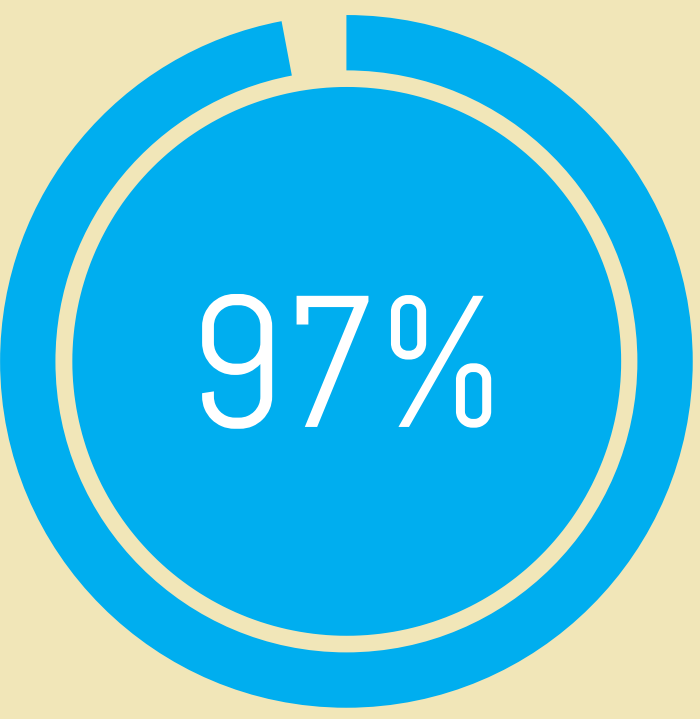
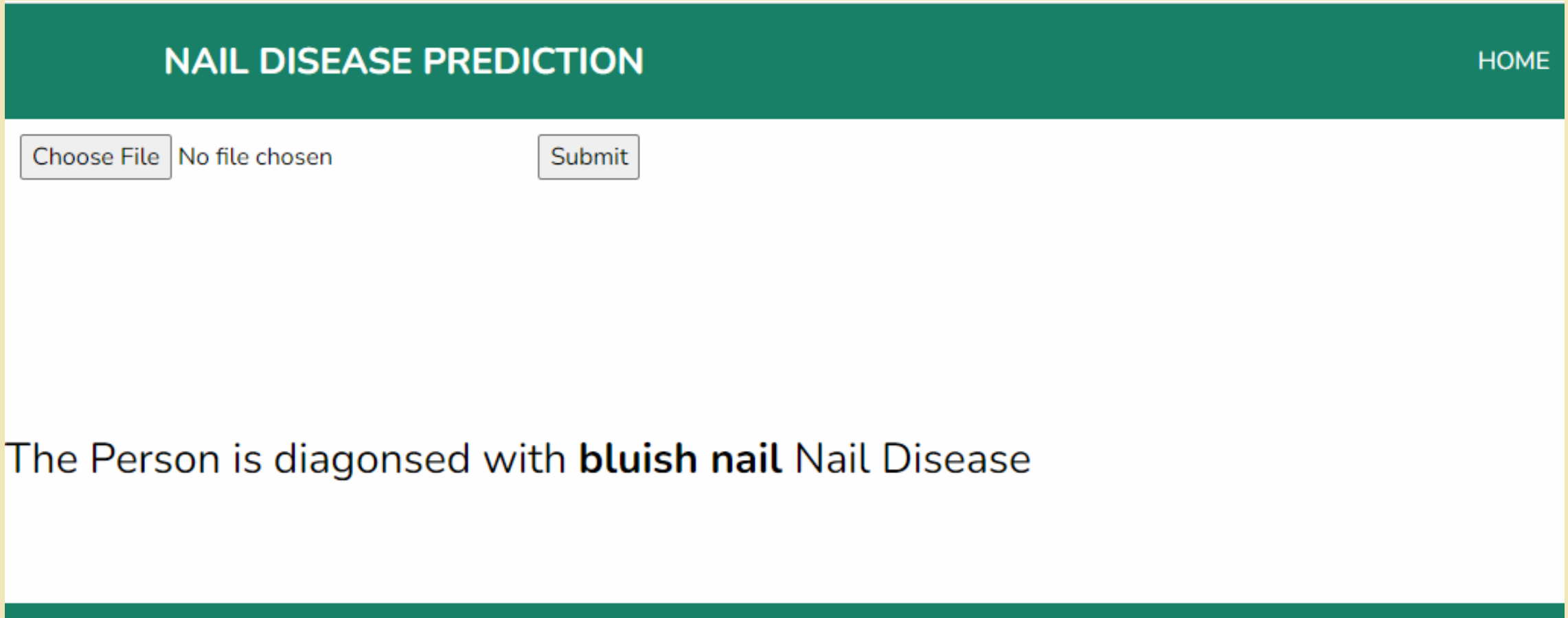
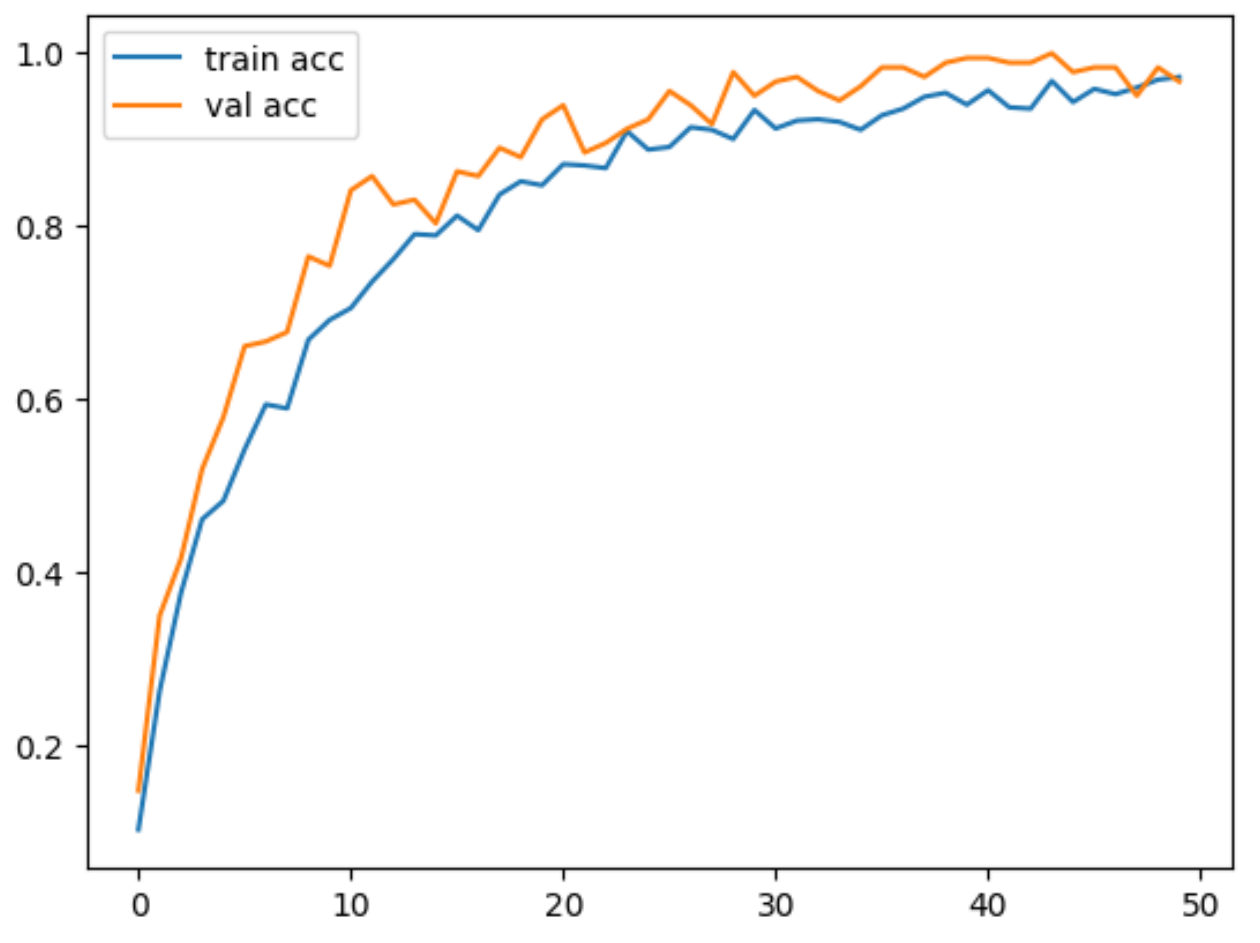
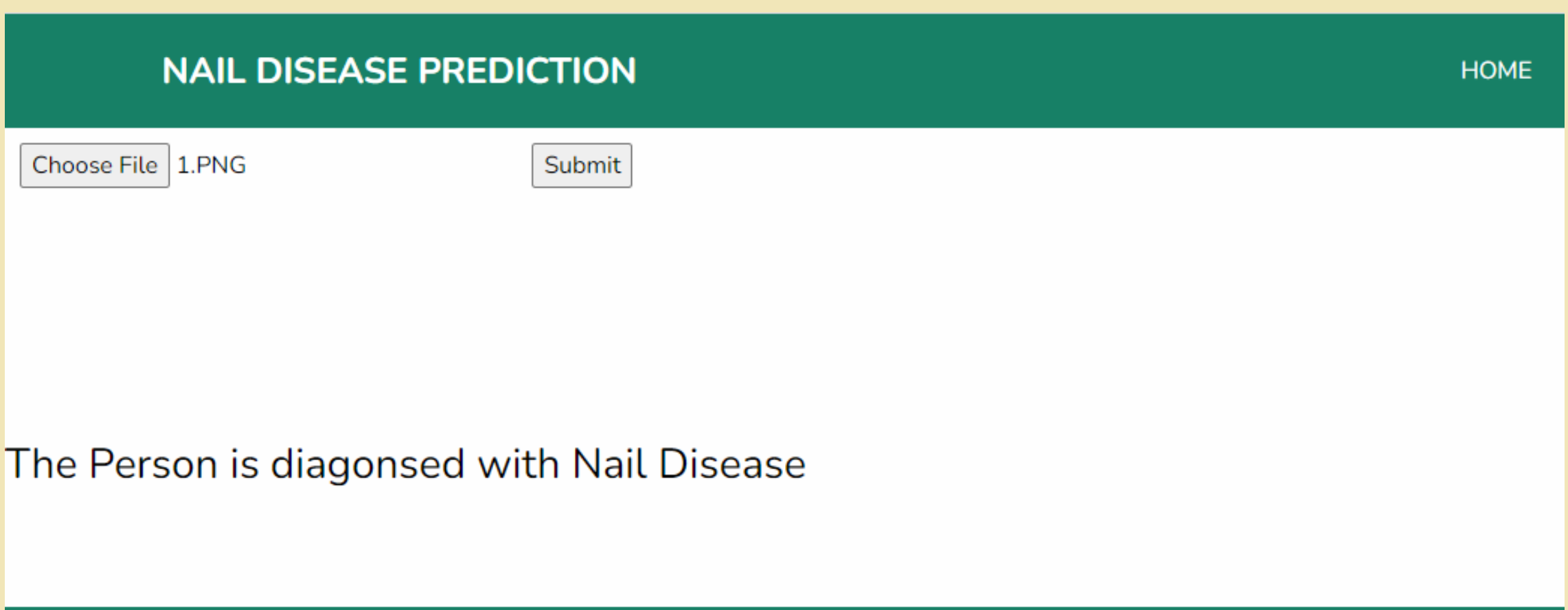
PROPOSED METHOD



SAMPLE DATASET



RESULT ANALYSIS



CONCLUSION

The study uses a CNN-based Vgg16 model for early-stage illness detection in humans, achieving high accuracy in predicting various disorders based on nail color changes. The model outperforms the human visual system due to low resolution power and subjective evaluation. The findings may have clinical applications, and deep neural networks may be used in the future to identify more health problems in people.