



FINAL YEAR PROJECT REPORT

SKIN DISEASE DETECTION

**In fulfillment of the requirement
For degree of
BS (COMPUTER SCIENCES)**

By

**MUHAMMAD YASEEN ASIF
SHEHARYAR AHMED**

**73015 (BSCS)
72972 (BSCS)**

SUPERVISED

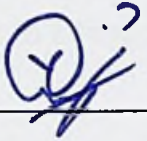
**BY
MS.FATIMA BASHIR**

BAHRIA UNIVERSITY (KARACHI CAMPUS)

FALL-2024

DECLARATION

We hereby declare that this project report is based on our original work except for citations and quotations which have been duly acknowledged. We also declare that it has not been previously and concurrently submitted for any other degree or award at Bahria University or other institutions.

Signature : _____

Name : Muhammad Yaseen Asif

Reg No. : 73015

Signature : _____

Name : Sheharyar Ahmed

Reg No. : 72972

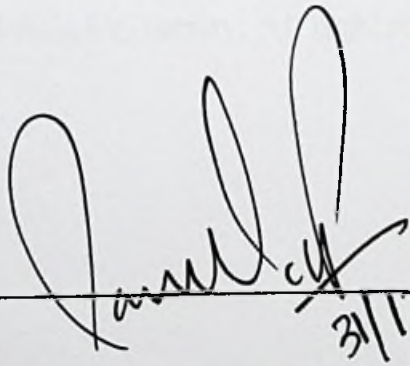
Date : 11-December-2024

APPROVAL FOR SUBMISSION

We certify that this project report entitled **“SKIN DISEASE DETECTION”** was prepared by **MUHAMMAD YASEEN AND SHEHARYAR AHMED** has met the required standard for submission in partial fulfilment of the requirements for the award of Bachelor of Science in Computer Science at Bahria University, Karachi.

Approved by,

Signature :



31/12/24

Supervisor : Miss Fatima Bashir

Date : 31-December-2024

The copyright of this report belongs to Bahria University according to the Intellectual Property Policy of Bahria University BUORIC-P15 amended on April 2019. Due acknowledgement shall always be made of the use of any material contained in, or derived from, this report.

© 2024 Bahria University. All right reserved.

Specially dedicated to
My beloved grandmother, mother and father
(MUHAMMAD YASEEN)
My beloved grandmother, mother and father
(SHEHARYAR AHMED)

ACKNOWLEDGEMENTS

We would like to thank everyone who has contributed to the successful completion of this project. We would like to express our gratitude to our project supervisor, Miss Fatima Bashir for her invaluable advice, guidance and her enormous patience throughout the development of the research.

In addition, we would also like to express our gratitude to our loving parents and friends who have helped and given us encouragement.

SKIN DISEASE DETECTION

ABSTRACT

The goal of this project is to create picture recognition algorithms that can identify and categorise skin conditions from input photographs, offering information about possible therapies and management approaches. Several image processing methods, such as feature extraction, segmentation, and preprocessing. Convolutional neural networks, or CNNs, are used because they are well-suited for tasks involving feature extraction and classification, especially in the field of image recognition. The system's capacity to quickly and accurately diagnose patients based on image analysis forms its foundation. The system uses deep learning techniques to analyse important aspects and patterns in images submitted to it, allowing it to reliably identify a variety of skin conditions. It then looks up possible illnesses and suggested remedies in a database compiled by dermatologists. Additionally, the system has a reminder function to handle the critical component of treatment adherence. In order to guarantee consistency and effectiveness in the management of their diseases, users are promptly reminded to take their prescribed medications. For those with skin conditions, this proactive approach improves treatment compliance and leads to better health results. Our project offers a comprehensive and user-friendly solution for the detection and management of skin diseases, marking a significant leap in the field of dermatology. Our goal is to enable prompt access to professional medical advice and treatment while empowering people to take charge of their skin health by fusing state-of-the-art technology with in-depth medical expertise.

TABLE OF CONTENTS

DECLARATION	ii
APPROVAL FOR SUBMISSION	iii
ACKNOWLEDGEMENTS	vi
ABSTRACT	vii
TABLE OF CONTENTS	viii
LIST OF TABLES	x
LIST OF FIGURES	xi
LIST OF SYMBOLS / ABBREVIATIONS	xii
LIST OF APPENDICES	xiii

CHAPTER

1	INTRODUCTION	1
	1.1 Background	1
	1.2 Problem Statement	1
	1.3 Aims and Objectives	2
	1.4 Scope of Project	2
2	LITERATURE REVIEW	3
	2.1 Background	3
	2.2 Related Work	3
	2.3 Comparison table with existing studies	5
	2.4 Chapter Summary	6
3	REQUIREMENT SPECIFICATIONS	7
	3.1 Existing System	7

		9
3.2	Proposed System	7
3.3	Requirement Specification	8
3.4	Use Case	9
4	DESIGN AND METHODOLOGY	10
4.1	Proposed Methodology	10
4.2	Process Model	11
4.3	Modules Discussion	12
4.4	Project Diagram	12
	4.4.1 Dataset	13
	4.4.2 Sequence	14
5	SYSTEM IMPLEMENTATION	15
5.1	EfficientNet Model	15
	5.1.1 PreProcessing	15
	5.1.2 Model Architecture	15
	5.1.3 Training	16
5.2	Vgg19 Model	16
	5.2.1 PreProcessing	16
	5.2.2 Model Architecture	16
	5.2.3 Training	17
	5.2.4 Accuracy And Loss Graph Comparison	17
5.3	MobileNet Model	18
	5.3.1 PreProcessing	18
	5.3.2 Model Architecture	18
	5.3.3 Training	19
	5.3.4 Accuracy And Loss Graph Comparison	20
5.4	Mobile App	21
	5.4.1 User Interface	21
6	SYSTEM TESTING AND EVALUATION	24
6.1	Vgg19 Model Evaluation	24
6.2	MobileNet Model Evaluation	25

		10
6.3	EfficientNet Model Evaluation	26
6.4	System Testing	27
7	CONCLUSION	31
7.1	Summary	31
7.2	Recommendations for future work	31
	REFERENCES	32
	APPENDICES	34