



FINAL YEAR PROJECT REPORT

DECODING THE VEILED FACE DETECTION AND IDENTIFICATION USING DEEP LEARNING

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

By

**WAJEEHA SHAFIQUE
HABIBA AMIR
EIMAN WAHAB**

**70156 (BSCS)
70113 (BSCS)
70104 (BSCS)**

SUPERVISED

BY

MISS. SAMEENA JAVAID

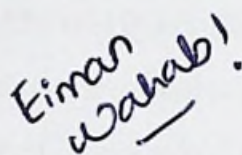
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SPRING-2024

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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.

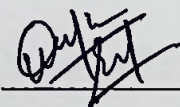
Signature :

Name : EIMAN WAHABReg No. : 70104

Signature :

Name : HABIBA AMIRReg No. : 70113

Signature :

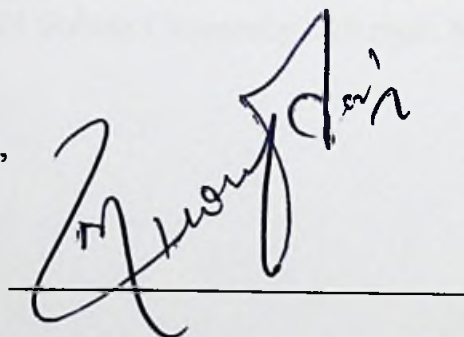
Name : WAJEEHA SHAFIQUEReg No. : 70156Date : 20th May 2024

APPROVAL FOR SUBMISSION

We certify that this project report entitled **“DECODING THE VEILED (FACE DETECTION AND IDENTIFICATION USING DEEP LEARNING)”** was prepared by **EIMAN WAHAB, HABIBA AMIR, WAJEEHA SHAFIQUE** 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.

Approved by,

Signature :

A handwritten signature in black ink, appearing to read 'Sameena Javaid', is written over a horizontal line.

Supervisor : Ma'am Sameena Javaid

Co-Supervisor : Sir Muhammad Marouf

Date : 20th May 2024

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Specially dedicated to
my beloved grandparents, mother, and father
Eiman Wahab
my beloved grandparents, mother, and father
Habiba Amir
my beloved grandparents, mother, and father
Wajeeha Shafique

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DECODING THE VEILED

(FACE DETECTION AND IDENTIFICATION USING DEEP LEARNING)

ABSTRACT

In today's rapidly evolving world, where technology is progressing swiftly, there is an increasing demand for facial recognition systems. These technologies are similar to digital forensics in that they can recognize people by scanning their faces. However, one key problem they confront is dealing with covered or occluded faces, which might restrict their accuracy and efficacy in real-world situations. To overcome this issue, we created a system that is capable of identifying individuals even when their faces are veiled. We used the face detector algorithm called MTCNN for face detection with 99.8% accuracy. Further we have conducted feature extraction and pre-processing on our self-created dataset. Our project utilizes the power of deep learning model: ResNet50, the form of deep neural network architectures well-suited for the job of features extraction. These features are matched by using Cosine similarity with accuracy of 92%. By leveraging the capabilities in the deep learning algorithms along with computer vision techniques, this project is able to provide a robust solution for automating the recognition of partially occluded faces. This enhancement in facial recognition technologies is required for accurate results and transparency in the end product. We aim to increase the system's ability to recognize people effectively in real-world circumstances by training it on an extensive dataset containing photos of faces with varying degrees of occlusion. We hope to contribute to the improvement of the practicality and reliability of facial recognition technology, which has potential applications in safety, agencies that required strong safety, and other domains where accurate identification is required.

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