



FINAL YEAR PROJECT REPORT

DEEPFAKE DETECTION USING DEEP LEARNING

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

By

**ABDULLAH ABDUL WAHID
FAZEEL ZAFAR
ZOHA ZEHRA**

**65205 (BSCS)
65201 (BSCS)
65242 (BSCS)**

SUPERVISED

BY

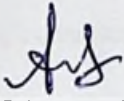
MISS SAMEENA JAVAID

BAHRIA UNIVERSITY (KARACHI CAMPUS)

SPRING-2023

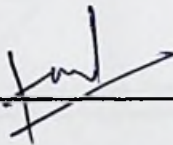
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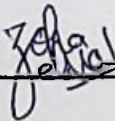
Name : Abdullah Abdul Wahid

Reg No. : 65205

Signature :  _____

Name : Fazeel Zafar

Reg No. : 65201

Signature :  _____

Name : Zoha Zehra

Reg No. : 65242

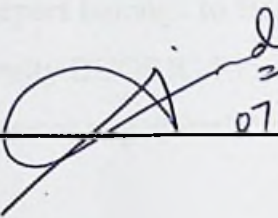
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APPROVAL FOR SUBMISSION

We certify that this project report entitled “**DEEPPAKE DETECTION USING DEEP LEARNING**” which was prepared by Abdullah Abdul Wahid, Fazeel Zafar and Zoha Zehra 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,

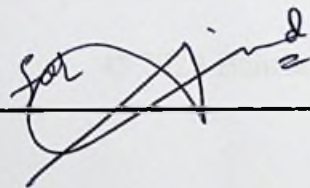
Signature:

 07/7/23

Supervisor:

Ms. Sameena Javaid

Signature:



Co-Supervisor:

Ms. Salas Akbar

Date:

1st June'2023

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DEDICATION

Especially dedicated to

My beloved grandparents, mother, and father

(Abdullah Abdul Wahid)

My beloved grandparents, mother, and father

(Fazeel Zafar)

My beloved grandparents, mother, and father

(Zoha Zehra)

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ABSTRACT

Deep learning algorithms have become as powerful as computation power has increased that creating an indistinguishable human synthesized video, also known as deep fakes, has become very simple. Deepfakes involves images and videos, often obscene, in which a face can be swapped with someone else's which can be used to create political distress, criminal activities, revenge porn, and blackmailing people as individuals as well as communities and organizations. In this project, we have described a deep learning method that can effectively distinguish between a fake or AI-based generated video from a real video. The method used in this project comprises of a Res-Next Convolution neural network to extract the frame-level features in the first phase and for the second phase these features are further used as an input to train the Long Short-Term Memory (LSTM) based Recurrent Neural Network (RNN) to classify the videos as fake or real. To make the model perform better on real time data, we have created a new dataset, by combining various datasets like FaceForensic++, Face Forensics in the Wild (FFIW), Deepfake detection challenge, and Celeb-DF. The evaluated results show the effectiveness of the proposed method comparing with existing models like VGG-16 and CapsureForensics on the newly created dataset.

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