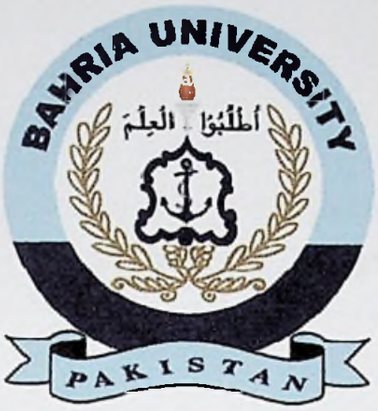

FINAL YEAR PROJECT REPORT

IMAGE TO IMAGE TRANSLATION USING GENERATIVE ADVERSARIAL NETWORKS

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

By

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SUPERVISED

BY
DR. M. TARIQ SIDDIQUE

BAHRIA UNIVERSITY (KARACHI CAMPUS)

FALL-2023

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 : _____ 26/01/24

Name : Ibraaheem Saeed Akbar

Reg No. : 67781

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Name : Muhammad Zaheeruddin Halepoto

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Signature : _____ 26/01/24

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Date : 26/01/24

APPROVAL FOR SUBMISSION

I certify that this project report entitled **"IMAGE TO IMAGE TRANSLATION USING GENERATIVE ADVERSARIAL NETWORKS"** was prepared by **IBRAAHEEM SAEED AKBAR, DANIAL ZUBAIR SIDDIQUI AND MUHAMMAD ZAHEERUDDIN HALEPOTO** 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 : _____

Supervisor : Dr. Muhammad Tariq Siddique PhD (CIS)

Date : 26/01/2024

Specially dedicated to

My beloved mother and father

(Ibraaheem Saeed Akbar)

My beloved grandmother, grandfather, mother and father

(Muhammad Zaheeruddin Halepoto)

My beloved grandmother, mother and father

(Danial Zubair Siddiqui)

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

ABSTRACT

The field of image-to-image translation faces several challenges, including issues related to model convergence speed and generated image quality. In response to these challenges, this project focuses on refining existing methodologies, specifically targeting the Pix2Pix and CycleGAN models. By substituting instance normalization with layer normalization in these architectures, we successfully overcome common hurdles, resulting in significantly improved convergence speeds and enhanced image quality. Through comprehensive experimentation, our adapted models demonstrate superior performance in generating high-quality images. A thorough comparison with InstructPix2Pix, a leading image translation model, further validates the effectiveness of our approach, positioning our modified architectures as competitive solutions in the realm of image-to-image translation. This project not only addresses key problems in the field but also contributes valuable insights for advancing the state of the art in image translation techniques.

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