



Quantum Image Compression Using Espresso Algorithm

DEPARTMENT OF ELECTRICAL & COMPUTER ENGINEERING

NORTH SOUTH UNIVERSITY

Course : CSE499 Report

Section: 06

SUMMER 2023

Group members

Jannatul Ferdous Mim 1912964642	Zobayer Islam Abir 1921653042	AKM Anisur Rahman 1912282642
------------------------------------	----------------------------------	---------------------------------

Under the supervisor

DR. Mahdy Rahman Chowdhury

Associate professor

DEPARTMENT OF ELECTRICAL & COMPUTER ENGINEERING

Declarations

Project Title : Quantum Image Compression Using Espresso Algorithm

Author's :

Jannatul Ferdous Mim (1912964642)

Zobayer Islam Abir (1921653042)

AKM Anisur Rahman (1912282642)

Supervisor : Dr. Mahdy Rahman Chowdhury

This document, fulfilling the requirements for the Capstone Design Project CSE499 A & B, spans two semesters as a senior design course. We assert that the report, titled "Quantum Image Compression Using Espresso Algorithm," has not been accepted for any other degree and is not concurrently submitted elsewhere. We seek your approval for considering this report as a partial fulfilment of the Bachelor of Science degree under the Electrical and Computer Engineering Department at North South University.

Jannatul Ferdous Mim (1912964642)

Department of Electrical & Computer Engineering
North South University

Zobayer Islam Abir (1921653042)

Department of Electrical & Computer Engineering
North South University

AKM Anisur Rahman (1912282642)

Department of Electrical & Computer Engineering
North South University

Date: 27th December 2023



Department of Electrical & Computer Engineering
North South University
Bashundhara, Dhaka-1229, Bangladesh

Approval

This certification acknowledges that the CSE499 report titled "Quantum Image Compression Using Espresso Algorithm," submitted by Jannatul Ferdous Mim (1912964642), Zobayer Islam Abir (1921653042), and AKM Anisur Rahman (1912282642), signifies their status as undergraduate students in the Department of Electrical & Computer Engineering at North South University. The report partially meets the requirements for the Bachelor of Science degree in Computer Science and Engineering, and it was deemed satisfactory on December 27, 2023.

Dr. Mahdy Rahman Chowdhury

Associate Professor

Department of Electrical & Computer Engineering
North South University

Dr. Rajesh Palit

Associate Professor & chair

Department of Electrical & Computer Engineering
North South University

Abstract:

Our venture into quantum technologies involves the project 'Quantum Image Compression using Espresso Algorithm,' guided by Dr. Mahdy Rahman Chowdhury.

With the expertise of research assistant Syed Imad Uddin Shubha . and our ECE team (Jannatul Ferdous Mim, Zobayer Islam Abir, and AKM Anisur Rahman),

we explore into the fusion of quantum computing and the Espresso algorithm for image compression. This collaborative effort unfolds through thorough experimentation and analysis, contributing to the ever-changing field of quantum information processing. The abstract captures the essence of our exploration, emphasising the intricate interplay between quantum principles and innovative compression techniques in the dynamic context of our project.