



بسم الله الرحمن الرحيم

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Cairo University

**DESIGN POTENTIALS OF ISLAMIC GEOMETRIC
ARCHITECTURAL PATTERNS
EGYPTIAN CASE STUDIES OF RELIGIOUS
CONTEMPORARY ARCHITECTURE**

By

HOSSAM NAIEM MAMOUN MOHAMED

A Thesis Submitted to the
Faculty of Engineering at Cairo University
in Partial Fulfillment of the
Requirements for the Degree of
MASTER OF SCIENCE
in
Architectural Engineering

FACULTY OF ENGINEERING, CAIRO UNIVERSITY
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Under the Supervision of

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Key Words:

Islamic geometric patterns; Traditional craft; Contemporary architecture; Computational design; Applications

Summary:

Geometric patterns — the language and vocabulary of Islamic art —the framework of architectural design concepts and town planning were the spheres in which it excelled and remained mysterious. Due to the lack of access to the scientific geometric know-how of traditional masters, this stunning art theory is facing a gradual disappearance in contemporary works and practice. As a solution, this thesis presents a practical and theoretical discipline that architects, designers, builders, and craftsmen can use to restore the religious and cultural context that is seriously lacking in much of contemporary architecture.

Disclaimer

I hereby declare that this thesis is my own original work and that no part of it has been submitted for a degree qualification at any other university or institute.

I further declare that I have appropriately acknowledged all sources used and have cited them in the references section.

Name: Hossam Naiem Mamoun Mohamed Date: / / 2022

Signature:

Dedication

This thesis is dedicated to my family, who have shown me so much love, support, and encouragement over the years.

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First and foremost, I thank God, the Almighty, for presenting me with this chance and providing me with the necessary skills to succeed.

This thesis is now in its current shape because of my supervisor's help and supervision. I'd want to show my gratitude to him for his constant advise and encouragement throughout the thesis. I'd also like to express my gratitude to my family for their constant love, support, and aid in all parts of my life.

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