# بسم الله الرحمن الرحيم


MONA MAGHRABY


# شبكة المعلومات الجامعية

# التوثيق الالكتروني والميكروفيلم

MONA MAGHRABY

شبكة المعلومات الجامعية

التوثيق الإلكتروني والميكروفيلم

# جامعة عين شمس

# التوثيق الإلكتروني والميكروفيلم

# قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها
علي هذه الأقراص المدمجة قد أعدت دون أية تغيرات

# يجب أن

تحفظ هذه الأقراص المدمجة بعيدا عن الغبار

***MONA MAGHRABY***

AIN SHAMS UNIVERSITY
FACULTY OF ENGINEERING
DEPARTMENT OF ARCHITECTURE

# PERFORMANCE-BASED STRATEGIES FOR PLUS-ENERGY RESIDENTIAL PROTOTYPING IN EGYPT

A thesis submitted in partial fulfilment of the requirements of the degree of

**Doctor of Philosophy in Architecture**

Submitted by

**Hussein Ahmed Fareed Hamza**

B.Sc. Architecture - Ain Shams University, 2011
M.Sc. Architecture - Ain Shams University, 2016

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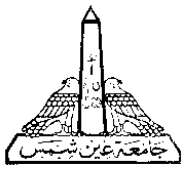
Cairo - (2020)



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# PERFORMANCE-BASED STRATEGIES FOR PLUS-ENERGY RESIDENTIAL PROTOTYPING IN EGYPT

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| **Examiners' Committee** | **Signature** |
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| **Prof. Mohamed Moamen Afifi**<br>Prof. of Design & Environmental Planning<br>Faculty of Engineering, Cairo University | ……. |
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بسم الله الرحمن الرحيم

"وَقُلْ رَبِّ زِدْنِي عِلْمًا"

(طه: ١١٤)

صدق الله العظيم

*To my **Mom, Dad, Brother** &*

***his family**; for all your support*

*and unconditional love*

## STATEMENT

This dissertation is submitted to Ain Shams University - Faculty of Engineering - Department of Architecture for the degree of Ph.D. in Architecture.

The work included in this thesis was accomplished by the author at the Department of Architecture, Faculty of Engineering, Ain Shams University, during the period from 2017 to 2020. No part of this thesis has been submitted for a degree or a qualification at any other university or institute.

**Date** 1/9/2020

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