# 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***


# DYNAMIC MODELING OF CEREBRAL CORTEX TO STUDY EPILEPTIC SEIZURE PROPAGATION BASED ON EEG CLASSIFICATION

By

**Mustafa Abd El-Samea Abd El-Baset**

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
**Biomedical Engineering and Systems**

FACULTY OF ENGINEERING, CAIRO UNIVERSITY
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Under the Supervision of

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## Title of Thesis:

# DYNAMIC MODELING OF CEREBRAL CORTEX TO STUDY EPILEPTIC SEIZURE PROPAGATION BASED ON EEG CLASSIFICATION

**Key Words:**
Epilepsy; Seizure; EEG; MRI; Focal area.

**Summary:**
Epilepsy is considered one of the common medical and social disorders with specific and remarkable characteristics. One of the familiar techniques to diagnose and classify epilepsy is Electroencephalographic (EEG). On this study we proposed a procedure for epilepsy classification with and without signal processing. Moreover, generating a dynamic model to localize the focal area.

# Disclaimer

I state that this thesis is my own original work and that no single part of it has been submitted for a degree qualification at any other institute or university.
I further declare that I have appropriately acknowledged all sources used and have cited them in the references section.

Name: Mustafa abd elsamea Date: /7/2020

Signature: Mustafa abd elsamea

# Dedication

My lovely Mother and wife

sisters

My son and daughter

My extended family

& All of those who lovely and friendly supported me during this thesis progress

& preparation.

***Mustafa***

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First, I thank ALLAH who gave me the strength and power to complete this thesis successfully, as behind this project there is a great effort and power has been exerted.

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