

Universiti Teknologi MARA

**Stress Level Detection using Fuzzy
Logic**

Nor Husna Nabila binti Khuzaini

**Thesis submitted in fulfilment of requirements for
Bachelor of Computer Science (Hons.)
Faculty of Computer and Mathematical Sciences**

March 2020

ACKNOWLEDGEMENT

Alhamdulillah and all praise to Allah for the strength and His blessing, I was able to completing this research with the time duration given. Special appreciation and thanks to my supervisor, Ts. Dr Rajeswari A/P Raju for her guidance and the continuous support for my project and research paper and her help in suggestion and comments throughout the process works and success.

My special thanks to my final year project coordinator for Project Formulation subject, Ts. Dr Hamidah bt Jantan for all constant concern, knowledge and guidance that has been shared during this study and research.

Then, special appreciation goes to my beloved family for their support, prayer and inspiring from the beginning. Not forget my other lecturers in University Teknologi Mara, Kuala Terengganu for all the opinions, knowledge and guidance. Last but not least, I would like to thank all my friend for their kindness and knowledge's sharing during my study and some motivation to finish this thesis. Thank you for all cooperation and support, May Allah bless all of us.

ABSTRACT

Stress can affect aspects of your life, including your emotions, behaviour, thinking ability, and physical health. The stress level might not be the same with other people, it is needed to ourselves for take the step of precaution and meet the doctor/therapist. This enhancement is in particular relative in emotional memory. Stress become a serious issues nowadays. There are many physical and emotional symptoms of stress that give effect our healthy. The continuous presence of stress can lead to countless terrible fitness effects, such as excessive blood pressure, lack of sleep, susceptibility to infections, and cardiovascular disease. This study aim to determine, develop and evaluate the system of level detection using Fuzzy logic. But, how do you try to detect and check the stress level in our lifestyle? In this paper, the system were design to calculate the data collected from the expertise. This fuzzy logic system were successful develop. The result indicate in stress level detection based on fuzzy logic system that provide the symptom of stress and the facial emotion. The future researcher need to identify the other algorithm that could strengthen the effectiveness of these system.

TABLE OF CONTENTS

CONTENT	PAGE
SUPERVISOR APPROVAL	ii
STUDENT DECLARATION	iii
ACKNOWLEDGEMENT	iv
ABSTRACT	v
TABLE OF CONTENTS	vi
LIST OF FIGURE	vii
LIST OF TABLE	ix
LIST OF ABBREVIATIONS	x
CHAPTER ONE: INTRODUCTION	
1.1 Background of Study	1
1.2 Problem Statement	3
1.3 Objectives	4
1.4 Scope	4
1.5 Significance of Study	4
1.6 Expected Outcomes	5
1.7 Summary	6

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction	7
2.2 Healthcare	8
2.2.1 Overview	8
2.2.2 Related Issues	8
2.2.3 Healthcare System	9
2.3 Fuzzy Logic Algorithm	11
2.3.1 Overview	11
2.3.2 Method and Technique	11
2.3.3 Related Current Studies and Issues	12
2.4 Specific Selected Technique	13
2.4.1 Overview	13
2.4.2 Advantages	14
2.4.3 Related Current Studies and Issues	15
2.5 Similar Application	17
2.6 Summary	19

CHAPTER THREE: METHODOLOGY

3.1 Introduction	20
3.2 Project Methodology Overview	21
3.3 Analysis Phase	23
3.4 Design Phase	24
3.5 Implementation Phase	31