



UNIVERSITI TEKNOLOGI MARA

**DETECTION OF IN-CAR-ABANDONED
CHILDREN VIA DEEP LEARNING ALGORITHM**

MOHD FARHAN BIN MOHD PAUZI

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requirements for the degree of
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AUTHOR'S DECLARATION

I declare that the work in this thesis/dissertation was carried out in accordance with the regulations of Universiti Teknologi MARA. It is original and is the results of my own work, unless otherwise indicated or acknowledged as referenced work. This thesis has not been submitted to any other academic institution or non-academic institution for any degree or qualification.

I, hereby, acknowledge that I have been supplied with the Academic Rules and Regulations for Post Graduate, Universiti Teknologi MARA, regulating the conduct of my study and research.

Name of Student : Mohd Farhan Bin Mohd Pauzi
Student I.D. No. : 2017768395
Programme : Bachelor of Surveying Science and
Geomatics (Honours) – AP220
Faculty : Architecture, Planning & Surveying
Thesis/Dissertation Title : Detection of In-Car-Abandoned Children via Deep
Learning Algorithm
Signature of Student : 

Date : 28 FEBUARY 2022

ABSTRACT

"In-car-abandoned children" is referring to children who have been abandoned in a car without parental supervision. This problem occurs due to lacking of existing system in detecting children image in a car. Therefore, this study aims to detect the existence of "in-car-abandoned children" using deep learning algorithm. A set of children images model captured and then classified into two (2) classes; children and no-children via Convolutional Neural Network (CNN) classifier. The CNN method has been used in this study to detect children because the method can automatically learn pattern features and reduce the incompleteness caused by artificial design features. The method directly inputs the image pixel value through training sample image data. The CNN gives a job in visual content management by tagging (or label) the children in pictures as well. The programming language that is applied is Tensorflow which is available in Spyder. This study successfully creates a model that can detect children from the whole body in various poses with automatic tagging to the children's image. The benefit from this study is that this data will be utilized to improve current vehicle systems on the market and other benefits such as create the awareness to the parent and society about the in-car-abandoned children.

TABLE OF CONTENT

CONFIRMATION BY PANEL OF EXAMINERS	ii
AUTHOR'S DECLARATION	iii
SUPERVISOR'S DECLARATION	iv
ABSTRACT	v
ACKNOWLEDGEMENT	vi
TABLE OF CONTENT	vii
LIST OF FIGURES	x
LIST OF THE EQUATION	xi
LIST OF TABLE	xi
LIST OF ABBREVIATIONS / NOMENCLATURE	xi
CHAPTER 1	1
INTRODUCTION	1
1.1 Research Background	1
1.2 Problem Statement	3
1.3 Research Question	4
1.4 Aim and Objectives	4
1.5 Objective of Study	4
1.6 Scope of Study	4
1.7 Limitation of the study	4
1.8 Significant of Research	5
CHAPTER 2	6
LITERATURE REVIEW	6
2.1 Introduction	6
2.2 Definition of In-car-abandoned children	6
2.3 Deep Learning Algorithm	7

3.5	The structure of the coding script classification.	23
3.5.1	Load the module and data.	23
3.5.2	Preprocessing the data	29
3.5.3	Define the model	31
3.5.4	Compile the model	34
3.5.5	Fit the model and saved model	35
3.5.6	Calculating and generating the final result of the entire set	36
3.5.7	Displaying the result.	40
CHAPTER 4		42
RESULT AND ANALYSIS		42
4.1	Introduction	42
4.3	The children images classify using (CNN)	44
4.4	Development of in-car-abandoned children detection model	50
CHAPTER 5		51
CONCLUSION AND RECOMMENDATION		51
5.1	Introduction	51
5.2	Conclusion	51
5.3	Recommendation	52
References		53