UNIVERSITI TEKNOLOGI MARA

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

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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.

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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.

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