

CONVOLUTIONAL NEURAL NETWORK APPLICATION IN DETECTING AN OBJECT

(Case Study : Snack (*Lays, Goodtime, Oreo, Pocky dan Tango*))

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ABSTRACT

The rise of criminal problems is not a strange and new thing happening around us. Of all the crimes that have occurred, one of the most prevalent cases in the neighborhood is theft / robbery. For example robberies that occur in the minimarket, this is due to the lack of security in a system in the minimarket, this is supported because the current system still uses cash and cashiers are less alert in dealing with robberies, then on the existing system When you want to pay to the cashier, often minimarket customers queue for a long time, even though the items that buy only one or two, this makes consumers uncomfortable because there is a long queue. Then the need for a system that can increase security and reduce transaction time. The development of technology makes a computer system that has the ability to process data into information. For example, can recognize an object based on an image (digital image). The process of introducing an object uses a deep learning method that can perform the feature extraction process automatically. Convolutional Neural Network (CNN) is one method used for image recognition. So that it can form a model that can be used to detect an object. The purpose of this study is to find out how the system design to create a model to detect objects, then find out the architecture used. Based on the model that has been made using the CNN algorithm, getting results that are quite high, this is proven by successfully detecting objects provided by researchers with accuracy rates ranging from 70-99%.

Keyword : *Convolutional Neural Network, Object Detection, Tensorflow, Deep Learning.*