ABSTRACT

Human facial expressions are an important source of information for recognizing a person's emotions and inner state. However, automatically recognizing human facial expressions from digital images remains a challenge for the field of artificial intelligence. This research aims to develop a system model that can classify human facial expressions based on two categories of emotions, namely happy and sad. The algorithm used is Convolutional Neural network (CNN) so that images can be classified with neurons. CNN is a type of artificial neural network that can independently learn important features from digital images through convolution and feature selection processes. The results of developing the model with the designed CNN architecture show an accuracy of 78% on the training dataset and a validation accuracy of 87%. The purpose of this research is to create a system that can classify human facial expressions using the Convolutional Neural network (CNN) method, which is part of Deep Learning as Artificial Intelligence, and Digital Imaging used for image data processing.

Keywords: *Artificial Intelligence, CNN, Deep Learning, Facial Expression, Open Cv.*