

ABSTRACT

Naturally, human uses facial expression to interact and show their emotion. At times it's hard to identify someone emotion, therefore there should be a system made that can detect someone emotion using artificial intelligence. The system were made because of its benefits, such as human interaction with the system itself. There are seven categories in human emotion, anger, sadness, joy/happiness, disgust, fear, surprise and neutral.

By using artificial intelligence, with using Deep Learning approach with Convolutional Neural Network algorithm in specific, the system made can classifies facial expression. This research will use digital imaging that will be inputted into the system, then the system will be trained to use the data by extracting features from the digital imaging input and classified the features by each facial expression characteristics. To make the system, FER2013 dataset was used as the raw material and train the system.

On previous research that used FER2013 and CNN algorithm, the system could reach accuracy up to 62.5%. Hence, the aim of this research is to compare and increase system accuracy that will be built. The higher accuracy of the system would make the system to effectively detect human emotion thorough their face. The accuracy test on this study could achieve up to 66.92% in accuracy.

Keyword: *accuracy, CNN, deep learning, facial expression, and FER2013*