Facial Recognition for Human Disposition Identification
Anbananthan Pillai Munanday and *Norazlianie Sazali**
College of Engineering, Universiti Malaysia Pahang, 26300 Gambang, Pahang, Malaysia
Corresponding author: azlianie@ump.edu.my

Abstract
Autonomous human facial disposition identification is beneficial in the majority of applications, including healthcare, customer satisfaction, criminal investigation and Human-Robot Interaction (HRI). Deep learning techniques able to classify human expressions into emotion categories via Convolutional Neural Network (CNN), which is well known example of deep learning concepts in maintaining accuracy. CNN can be trained to analyze and differentiate multiple human facial dispositions, since it made up of many intermediate states namely input layer, hidden layer and output layer which plays the significant part in generating the precise outcome and helps to reduce elimination tasks in easier way with minimal steps. In this research, we study to develop an autonomous system that can recognize and differentiate multiple human facial dispositions. This study will validate the models by creating a real-time vision system mainly includes three phases which are face detection through Haar Cascades, normalization and emotion recognition and classification using proposed CNN architecture on FER-2013 database with seven different sorts of universal emotions such as Happiness, Sadness, Anger, Disgust, Surprise, Fear and Neutral.

Keywords: Convolution Neural Network (CNN); Emotion recognition; FER2013; Haar cascades; Human robot interface (HRI).