

STRESS AND EMOTIONAL LEVEL DETECTOR BERBASIS FACIAL FEATURE DAN CONVOLUTIONAL NEURAL NETWORK

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ABSTRACT

Health problems due to emotional disturbances should not be taken lightly because they can have adverse effects on health. Emotional disturbances cause prolonged stress and lead to mental fatigue. Therefore, emotions need to be classified as early as possible. Then, the results of this classification can be used to determine a person's emotions and the treatment required. In this paper, we propose a classifier of emotions based on facial features. Here, we use Convolutional Neural Network (CNN) to extract facial features from images captured by the camera and then classify them into 7 basic emotions: anger, sadness, pleasure, neutrality, fear, disgust, and surprise. Generally, the classification system uses the CNN algorithm, but on the other hand CNN is computationally heavy. In this study, the classification of faces was carried out using the Deep-wise Separable Convolutional Neural Network. The goal is to reduce the number of training parameters so that the CNN architecture can be kept as simple as possible without compromising accuracy. The method we propose to classify has an accuracy of 66% on the 3,589 images in the FER2013 data set.

Kata Kunci: *stress level detector, facial feature, convolutional neural network*