JAVANESE MULTIMODAL EMOTION RECOGNITION IN DEEP ARTIFICIAL INTELLIGENCE APPROACH

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ABSTRACT

One of the uses of technology that many researchers are currently developing is an automatic detection system to recognize human emotions. Recognition of human emotions can be used for various things, for example in the fields of Health and Education. Many studies have been conducted to develop a human emotion recognition system based on human facial expressions. However, emotion detection using human facial expression data has not yielded good performance. Based on this, several studies regarding the design of emotion recognition systems are still being developed using other data objects, one of which is based on human speech. The resulting performance was not maximized. Most of the research on the development of human emotion recognition systems also focuses on common languages, such as English. There are still not many developments in emotion recognition systems in certain languages such as Javanese. Seeing this, the research in this proposal aims to develop a Javanese language emotion recognition system using a multimodal database. The use of multimodal datasets aims to maximize the characteristics of human emotional features.The research method used is research and development (R&D). Research was conducted to develop a detection system using multimodal datasets that can be used to create new product engineering. This research will produce an emotion detection system with good performance. In detail, the stages in the development method include (a) literature review, (b) dataset processing (c) data filtering and cutting, (d) system creation and development, (e) testing, and (f) implementation. The development of the detection system algorithm is carried out using the Mel Frequency Cepstral Coefficients (MFCC) algorithm. While the classification method used is based on deep Artificial Intelligence, namely the Convolutional Neural Network (CNN). System testing is carried out using the k-fold cross-validation method by dividing the dataset into training data and test data.

Kata Kunci: *emotion,multimodal,Javanese,artificial intelligence*