Universiti Teknologi MARA

COMPARATIVE SYSTEM PERFORMANCE OF SPEECH EMOTION RECOGNITION FROM THE PERSPECTIVE OF SVM AND MLP

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ABSTRACT

Nowadays, many Human Computer Interaction (HCI) based system applications were created such as intelligent tutoring system, call center, robotic, car board system and ticket reservation system. This is because, the researchers tried to emulate the benefit of human to human communication and adopt it into human to computer interaction. This project is focus on designing and developing a speech emotion recognizer (SER) system which can be used to detect emotion of the speakers and comparing the performance accuracy of two different classifiers, namely as Support Vector Machine (SVM) and Multi Layer Perceptron (MLP). The MLP and SVM classifiers are used to train the system and classify each emotion according to its categories namely as anger, sadness, happiness and neutral. Each of these classifiers was coupled with Mel Frequency Cepstral Coefficient (MFCC-40) feature extraction that converts the raw speech signal from time domain into the frequency domain. Experimental result shows that SVM is the best classifier with the performance accuracy of 62.51% compared to MLP classifier. It can be summarized that the proposed system can be used in Speech Emotion Recognition system in future implementation. As conclusion, the system performance has been compared between these two classifiers and SVM classifier shows the highest level of accuracy compared to MLP.

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