UNIVERSITY TEKNOLOGI MARA

FACIAL EXPRESSION RECOGNITION USING DISCRETE WAVELET TRANSFORM FOR CUSTOMER SATISFACTION

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Facial Expression-Recognition Using Discrete Wavelet Transform For Customer Satisfaction

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ABSTRACT

Facial expression recognition is designed to identify the customer's satisfaction when they are being served at the counter. Facial Expression Recognition techniques using Discrete wavelet transform (DWT) coefficient and the values of mean (M) and moment (m) that computed from DWThas been used as the features that serves as input to a Support Vector Machine (SVM). SVM acts as a classifier which classifes the facial expressions either as happy or not happy. The research methodology involves several phases which are preliminary study, analysis of literature, design of application, development of application, and implementation and testing and documentation. The dataset that have been used are 210 images from Cohn-Kanade database and 600 images from personal data that consists of happy and not happy expressions. Then, 40% of the images were used as testing input while the other 60% were used as training input. These images are manually cropped to obtain the precise face shape. The project is a stand-alone and developed using JAVA and MATLAB. The best accuracy rate obtained is 79.76% when the SVM is trained on eyes region for Cohn-Kanade database.

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