Pengenalan Ekspresi Wajah Menggunakan Metode *Local Binary Pattern* dan *Artificial Neural Network*

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Abstract

Facial expression recognition is one of the computer interactions in identifying emotions in humans through the face. In this Final Project, facial expression recognition is done by using the Local Binary Pattern (LBP) algorithm to extract features on the face and use Artificial Neural Network (ANN) for classification. Feature extraction on the face is done by blocking 256x256, 128x128, 64x64, and 32x32 pixel block sizes for segmentation in images. in addition, the use of radius and sample point for the LBP is also considered. The classification is done with ANN using the MLP network architecture and the algorithm used is Backpropagation by considering the number of hidden layers to produce a small Mean Square Error (MSE) and good accuracy. For testing, it was carried out using an image database that was mostly used for experiments such as the JAFFE Database. The test results show on the LBP algorithm (P = 8, R = 1) using a block size of 64x64 pixels and the Backpropagation ANN the number of hidden layers = 15 produces MSE = 0.00007 and 85.71% accuracy.

Keywords: Facial Ekspresi, LBP, ANN Backpropagation.