

ABSTRACT

At an agency's security system to detect a person's face using face recognition to privacy issues. Face recognition is a biometric to identify the face that has a high accuracy. But in general, the process of identification using facial image looks ahead. In fact to get the result as it was quite difficult and limited to behold.

In this final project will be made a program to analyze the face side view using the Local Binary Pattern (LBP) and Learning Vector Quantization - Artificial Neural Network. In the system of Local Binary Pattern (LBP) will be able to characterize the face by comparing the value of each pixel to pixel values of its neighbors. Then the new value derived from each pixel that would be a histogram that will be the hallmark of a face. In the method of Learning Vector Quantization - Artificial Neural Network were able to classify faces under normal circumstances and in conditions using accessories like hats. Since ANN classifies the vectors close enough distance in the same class and have the linear LVQ layer, the classification process, this method has a fast learning capabilities while maintaining a high level of accuracy.

From the results of testing the accuracy of the results obtained for each type of LBP is at 73.33% Ordinary LBP, LBP U by 73%, amounting to 72.53% RI LBP and LBP RIU at 72.5%. Accuracy is derived from testing 120 test images with the size of the sampling point $P = 8$, radius $R = 1$, 200 hidden layer, 600 epoch. Average computation time in identifying faces a side is for 0.3 seconds.

Keywords: face recognition, Local Binary Pattern (LBP), Learning Vector Quantization - Artificial Neural Network, hidden layer, epoch