

Abstract

Face is one of the important attributes to identify age, ethnicity, and gender. Ethnicity is important and acts as a characteristic in humans because it can be explained through social chains and perceptually such as the face, eye area, emotions, beliefs and others. In Indonesia there are 300 ethnic groups scattered throughout Indonesia because of the need for work or continuing studies to a higher level. This makes the community environment in Indonesia heterogeneous. Therefore, it is difficult to identify ethnicity manually by humans. Ethnic identification can also be used in law enforcement in the search for victims or suspects' identities. Ethnic identification can reduce the boundaries of identity search so that it is faster to reveal identity. So this research builds an Indonesian ethnic identification system model through facial images. The method used is the Histogram of Oriented Gradient as a feature extraction method and Support Vector Machine as a classification method. Based on testing using cross validation with k value of 4, the model is able to achieve an accuracy of 93,797%.

Keywords: ethnicity, identification, histogram of oriented gradient, support vector machine