

Abstract

Most of the world community must have had difficulty in remembering the name or shape of the country flag through the image. This is due to the large number of countries in the world and the diversity of shapes and colors on each flag. Therefore, it is necessary to have a country flag classification system through image. The classification of country flag images is one example of a topic that is quite challenging in image processing because of the large variety of shapes and / or colors on flags. In this thesis, the author conducts a research using a simple flag image that has no view or other additional objects in the image. The feature extraction method used is the Histogram of Oriented Gradient (HOG) and color feature's HSV color space. Meanwhile, the classification method used is Random Forest (RF). From the testing that has been done, the best accuracy is 93.28% when using the combined features of HOG and HSV color space.

Keywords: flag, histogram of oriented gradient, HSV color space, random forest.