Abstract

World Health Organization noted that by 2015 road accidents had claimed 1.2 million lives each year. Accidents are most experienced by motorcycle riders because of the lack of security that protects motorbike riders, and also the low awareness of motorcycle users to use safety devices in accordance with the Law. Researches have been conducted including making helmet detection systems for motorcycle riders using the feature extraction method of HOG, SIFT, LBP which can produce an average performance of 93 percent, 64 percent, 64 percent, respectively, using the SVM classification method. In this final project is made a system that can detect helmets on motorbike riders automatically using Histogram of Oriented Gradient feature extraction. The highest results obtained from the test results are 90.67 percent fmeasure, using the HOG feature extraction method with a cell size condition of 8x8 pixels and the number of 9 bins with a 180 degree angle. These results are achieved using the SVM classification method with a 3rd degree polynomial kernel.