ABSTRACT

The development of face detection in the science of technology is increasingly needed nowadays. In addition to the security system that makes the process of authentication and system security getting better, face detection is also needed for the needs of entertainment and social media that add value selling, which generally apply augmented reality technology.

In this research, we will develop the method used to detect faces using Histogram of Oriented Gradients (HOG) as its extraction and Support Vector Machine (SVM) as its classifier. The dataset used was 644 positive images and 2,572 negative images for the training process, 110 positive images for the testing process, and 10 images for the detection process. The system is built using HOG with block consisting of 2x2 cell where one cell consists of 8x8 pixel and using linear kernel in Support Vector Machine. This system produces a f-1 score of 71.42%.

Keywords : *face detection, Histogram of Oriented Gradients, Support Vector Machine*.