Abstract

Fire losses and fire incidents can be minimized by preventing and early detection of fire that can cause fire. Systems that can perform such early detection of ultraviolet and infrared sensors but the system has a shortage that as a solution, built a visual-based fire detection system by applying feature extraction on 3 orthogonal fields to obtain feature information, spatial and temporal. In this final project, fire detection system was developed using the method of extracting features of Speeded Up Robust Feature (SURF) and Support Vector Machine (SVM) classification method. At system test, the highest accuracy is obtained with threshold 0, cluster number 5 and using SVM with Gaussian kernel with accuracy value 81,25%.

Keywords: fire detection, SURF, K-Means , SVM.