

## **Abstract**

**Fire is a disaster that yield many negative impact for environment as well for human. Fire detection using sensor device has fundamental flaw where the fire must be in certain range to trigger the sensor. Application of computer vision shows superior performance against the conventional devices. It utilise natural feature such as color and movement. Fire color feature is the one that shows better accuracy than the other,although the rate of false positive in this case are still considerably high when there are objects that have color resembling fire. Use of deep learning in order to automatize the exploration of fire feature has been studied and shows better prediction. This study try to combine movement detection and color detection (multi-feature fusion) with deep learning CNN. Proposed system shows accuracy of 96,67% on training andhelp reducing false positive rate of multi-feature fusion.**

**Keywords: *multi-feature fusion, CNN, fire detection, color detection, movement detection***