Fire Detection Based on Color Filters and Bag-of-Features Classification

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ABSTRACT

Incidents or fire outbreaks are very common accidents occurring in Malaysia. The damage caused by this type of incident is very catastrophe towards nature and humans. Due to this fact, the need for fire detection application has greatly increase in recent years. In this paper we proposed a fire detection algorithm base using a combination of RGB and HSL filter to detect the color of the fire which is mainly comprehended by the intensity of the component R which is red color. Then Bag- of-Features (BoF) classification model was used to classify and calculate the rate for fire present. The overall accuracy of the algorithm obtain is 98% and the efficiency is 89%. The classification rate for the present of fire is 97.6%.