

Video Based Ambient Smoke Detection By Detecting Directional Contrast Decrease

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Abstract : Fire-related incidents account for extensive loss of life and material damage. Quick and reliable detection of occurring fires has high real world implications. Whereas a major research focus lies on the detection of outdoor fires, indoor camera-based fire detection is still an open issue. Cameras in combination with computer vision helps to detect flames and smoke more quickly than conventional fire detectors. In this work, we present a computer vision-based smoke detection algorithm based on contrast changes and a multi-step classification. This work accelerates computer vision-based fire detection considerably in comparison with classical indoor-fire detection.

Keywords : contrast analysis, early fire detection, video smoke detection, video surveillance

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