Detection of Fire with Image Processing

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Abstract: *In image classification and other computer vision problems, convolutional neural networks (CNNs) have achieved state-of-the-art results. Their use in fire detection systems will significantly enhance detection accuracy, resulting in fewer fire disasters and less ecological and social consequences. However, because of the large memory and processing requirements for inference, the application of CNN-based fire detection systems in real-world surveillance networks is a serious challenge. In this study, we offer an innovative, energy efficient, and computationally efficient CNN architecture for fire detection, localization, and semantic understanding of the fire scenario, based on the Squeeze Net architecture. It makes use of smaller convolutional kernels and avoids thick, fully connected layers, which reduces the computational load. Despite its modest processing requirements, the experimental results show that our suggested approach achieves accuracies comparable to those of other, more sophisticated models, owing to its greater depth. Furthermore, this paper.*

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