Early Fire Detection Using Convolutional Neural Networks During Surveillance for Effective Disaster Management

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Abstract

Early fire detection is man made disasters,which cause ecological, social, and economic damage. To minimize these losses, it plays a crucial role in reducing potential damage, protecting human life, and enabling rapid emergency response. Therefore, in this article, we propose an early fire detection framework using fine-tuned convolutional neural networks for CCTV surveillance cameras, which can detect fire in environments. The study highlights the effectiveness of deep learning in recognizing fire patterns with high accuracy and minimal false alarms.

Keywords: Fire Detection, CNN, Deep Learning, Surveillance Systems, Disaster Management

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