Motion Detection Alarm System

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Abstract*: Motion detection is the process of identifying and tracking changes in the position of objects in a video sequence with alarm triggering. It allows us to detect when something moves in a given frame and can be incredibly valuable in various fields. The proposed system is recommended for security in both residential and commercial building applications. Traditional motion detection systems rely on passive infrared (PIR) sensors, which can be fooled by environmental factors such as sunlight and shadows. Background subtraction algorithms offer a more reliable and accurate solution for motion detection. The background subtraction algorithm for motion detection involves comparing frames to identify differences between them, highlighting areas with movement and generate alarm. It utilizes a background model, thresholding, and object detection. The system can be used to detect moving objects in a variety of environments, including homes, businesses, and public spaces. The main takeaway message of this study is that the system is a valuable tool for motion detection and alarm systems. Itoffers a more reliable and accurate solution than traditional PIR sensors, and they arenot susceptible to environmental factors that can fool PIR sensors*

Keywords: motion detection, alarm system, background subtraction algorithm, security, safety

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