SESHADRI RAO GUDLAVALLERU ENGINEERING COLLEGE

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INFORMATION TECHNOLOGY

Animal Detection in Farms Using PIR Motion Sensors and Alert System Using IOT

ABSTRACT

Agricultural fields frequently suffer from crop damage caused by animals and birds, leading to economic losses for farmers. Conventional methods of field protection rely heavily on human intervention, making them labour-intensive and inefficient. This paper presents an IoT-based automated crop protection system that utilizes PIR motion sensors and a two-level deterrent mechanism to safeguard fields.

The first level detects motion and plays randomized carnivorous animal sounds to deter intruding animals, preventing habituation. If the animal continues moving inward, a second-level sensor triggers high-intensity focus lights, creating a stronger deterrent effect. The system is controlled via a mobile application, allowing farmers to adjust detection ranges as per their requirements. The integration of wireless connectivity ensures remote monitoring, reducing dependency on manual surveillance.

This low-cost, scalable solution provides an effective method for wildlife deterrence while minimizing human effort. Future enhancements will focus on improving object classification to reduce false detections and enhance efficiency.

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