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IMAGE PROCESSING BASED ANIMAL INTRUSION DETECTION SYSTEM IN AGRICULTURAL FIELD USING DEEP LEARNING

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Abstract: *Agriculture is one of the most important industries in any economy since it plays a big role in the food supply chain. Agricultural fields, on the other hand, confront a number of issues, including animal encroachment, which can cause severe crop damage and loss. Traditional animal control tactics, such as electrical fences, physical barriers, and scarecrows, can be inefficient, time-consuming and a serious threat to animal lives. The animals either become entangled in the fence's wire mesh or were electrocuted by the electric lines. To overcome these problems we propose a unique method that involves image processing-based animal incursion detection system in agricultural fields using Raspberry Pi and deep learning technique, mainly the YOLOv7. This technology captures live video feeds of agricultural fields using a camera and analyses them using deep learning algorithm to detect any animal invasions. If an intrusion is detected, the system emits specific repellent sounds for specific animal via speakers in order to scare them away and alerts the farmers by sending SMS. This method provides an efficient and practical alternative for crop damage prevention and human-wildlife conflict reduction in agricultural settings.*

Keywords:*Animal Intrusion Detection System in Agricultural Fields - AIDSAF*