LITERATURE REVIEW

1. Mark O. Afolabi, Idowu and A. Olalekan, "Design and Implementation of Farm Monitoring and Security System", International Journal of Computer Applications (0975 – 8887) Volume 181 – No. 9, August 2018

In this Project, the author proposed an alarm system which mainly scares ruffians to leave the field. If the ruffian is present for more period by GSM message is sent to glazier by saying that some ruffian or fowl is in the field. The other attribute is that metallic sensor which provides information to glaze those who invade the field.

2. S Jeevitha and Dr. Venkatesh Kumar, "A Review of Animal Intrusion Detection System", International Journal of Engineering Research & Technology (IJERT) Vol. 9 Issue 05, May-2020.

In this Project, the author proposed an animal intrusion alert system that can be used with wireless sensors and sends an automatic alert message to the landowner also to forest officials with an image. This can make early warning notification to take a suitable action depending on the type of intruder. The sensor will detect the movement of the animal and the camera will capture the image, using image processing techniques the captured image is classified via a microcontroller, then GSM module will send the alert notification SMS to the forest department or the landowner.

3.Saieshwar Radhakrishnan, Ramanathan.R, "A Support Vector Machine with Gabor Features for Animal Intrusion Detection in Agriculture Fields", 8th International Conference on Advances in Computing and Communication (ICACC-2018)

In this Project, the author proposed an animal intrusion detection system based on image processing and machine learning approach. The image of an animal is segmented using a watershed algorithm to extract various objects in the image and to examine that if any threat animal is found in segmentation. This algorithm is to create a barrier which is the contour only when the marked region meets different markers. Gabor filter is extensively used in extracting a region with text to recognize facial expression in various frequencies. Linear SVM is a supervised learning algorithm to train the dataset and to classify text and hypertext. This method of animal intrusion detection achieves an overall average of around 54.32%.

4. K. Jai Santhoshi, Bhavana. S, "Intruder recognition in a farm through wireless sensor network", International Journal of Advance Research, Ideas and Innovations in Technology et al 2018 (Volume 4, Issue 3)

In this Project, the author proposed intrusion recognition in farmland through a wireless sensor network (WSN) technology. The motion sensor is placed at various locations to sense the movement and communicate to the organizer via Radio frequency transceiver. The detection raises then the organizer sends an alert call to the farm owner mobile through the Global System for Mobile (GSM) module. An Arduino board is fixed near the centralized sensor and the GSM module will be the

interface along with buzzers and RFID transmitter. To differentiate authorized and unauthorized entries in farmland Radio-frequency identification (RFID) tags are used.

5. Sahane Pradnya Sambhaji, Salunke Nikita Sanjiv and Shirsath Vitthal Somnath, "Early Warning System for Detection of Harmful Animals using IOT", International Journal of Advance Research and Innovative Ideas in Education Vol-5 Issue-3 2019

In this Project, the author proposed an IOT based harmful animal early warning system. First, stored the harmful animal database in the computer system or cloud which is already connected to the IoT model with various sensors. Images are captured with a web camera only if any movement of animals is found in the school area, the computer system will compare the moving image with stored database image and trigger the Arduino Uno for the programming process. It buzzes the alarm and also sends SMS on a user's mobile phone after the animal is detected.

6. Sheela., Shivaram. K. R, Chaitra, Kshama, Sneha , Supriya, "Low Cost Alert System for Monitoring the Wildlife from Entering the Human Populated Areas Using IOT Devices" International Journal of Innovative Research in Science, Engineering and Technology Vol. 5, Special Issue 10, May 2016

In this Project, the author proposed a low-cost alert system to monitor animals using IOT devices. The PIR sensor tower consists of a Raspberry Pi module which is connected to a USB camera to capture images at the time of motion is sensed

and sends images via a web server using the internet. For image processing OpenCV is installed on raspberry pi also in this paper, to reduce the cost of electric lines solar power is fixed in each sensor tower the solar panel will charge the battery from the sunlight and provide power to the sensor tower. This provides power consumption low and stores battery power even at night.

7. Tibor TRNOVSZKY, Patrik KAMENCAY, Richard ORJESEK, Miroslav BENCO, Peter SYKORA, "Animal Recognition System Based on Convolutional Neural Network", ADVANCES IN ELECTRICAL AND ELECTRONIC ENGINEERING VOLUME: 15 | NUMBER: 3 | 2017 | SEPTEMBER

In this Project, the author proposed an animal recognition approach based on CNN. To minimize the effect of factors the input image can be treated with a series of pre-processing techniques. A well-known image recognition method is used to recognize computed phases such as Principal Component Analysis (PCA), Linear Discriminant Analysis (LDA), and Local Binary Pattern Histograms (LBPH). Proposed CNN and SVM classification methods have successfully identified animal faces from the created animal database, Convolutional Neural Network (CNNs) are a category of Neural Networks that have been more effectively recognized animal faces than SVM classifiers. CNNs achieves overall best precision accuracy of 97%, various tested methods were implemented in MATLAB and C++/Python Programming language.