



# Wild Watch

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**Abstract:** License, In the forest near rural areas, there are so many losses of lives because of wild animal attacks. At night human can't see the animals but animals can see the human and attack them, so it may lead to life loss. For this problem government provides cameras to monitor that type of places and it is not possible to monitor for every time. To overcome that problem, we upgrade that cameras by using Artificial Intelligence. Our camera detects and monitor animals 24/7 by using some AI algorithms, we detect the animals which are harm to the humans and gives a buzzer sound to make people alert and also to interrupt animals from there thinking. At the same time it send notification to the forest department as picture and warning message .In this proposed system, animal data set training and testing is processed and we make them easy to capture the visuals of the wild animals .We capture and analyse these pictures of the wild animals and store them in our database for future use.

**Keywords:** Wild Animals, Capture, Alert, People, Forest Department.

## I. INTRODUCTION

In the forest near rural areas, there are so many loss of lives because of wild animal attacks. At night human can't see the animals but animals can see the human and attack them, so it may lead to life loss. It is happening near by forest areas and for it forest department was working on it but it is not possible to monitor 24/7 . If they will find the animal at far distance sometimes they are unable to travel to reach that location it may cause both human nd animal life. If animal saw the people it may attack the people and it may effect the crop region this causes loss of property and some people may loss their lives. In recent years wild animals attacks villages which are placed in inside of cities and causes loss of property and lives.

For this problem we are having existing system that is forest department with monitoring with their cameras which are placed at forest boundaries. With that in some cases it is not possible to protect against wild animal attack. For this we are going to update that cameras by using machine learning. The recognition of big animals on the images with road scenes has received little attention in modern research.



(a)



(b)



(c)



(d)

## II. EXISTING SYSTEM

For this problem government provided cameras to monitor that type of places and it is not possible to monitor for every time .In the existing system, the person must be at the system and check that every time the wild animals enter the village.



The cameras which are provided to monitor the wild animals is not good quality and sometimes these may able to not detect the animal weather they are entering into the village or not.

### PROBLEMS OF THE EXISTING SYSTEM

- In the existing system, when they detect the animal which is entering into village they may not report the officers who are in the charge of that particular area.
- The main problem with the existing system is that we are n
- ot able to alert the people who are living in the forest region and suddenly they might get attacked by these wild animals.

### III. PROPOSED SYSTEM

Our camera detect and monitor animals 24/7 by using some AI algorithms, we detect the Animals which are harm to the humans and gives A buzzer sound to make people alert and also to interrupt animals from there thinking. In this proposed system, animal data set training and testing is processed and we make them easy to capture the visuals of the wild animals .We capture and analyse these pictures of the wild animals and store them in our database for future use.

### BENEFITS OF THE PROPOSED SYSTEM

- To overcome that problem we upgrade that cameras by using Artificial Intelligence.
- At the same time it send notification to the forest department as picture and warning message.
- We've trained these datasets & stored different angles of a particular wild animal so that we can easily identify them.

### IV. METHODS

Software Requirements: Windows 10, Aws Rekognition access, Anakonda.

Hardware Requirements: Computer or laptop, 64 bit operating system, x-64 bit processor, 4GB RAM, Processor: Intel i3 2.4 GHz, Arduino and Buzzer.

### V. LITERATURE SURVEY

From [1], In this paper, Kinect based sensors are used to enable automatic animal detection for monitoring and assessment the growth of livestock. Benefitted from the fast developing 3-D machine vision devices and techniques, it is liable to detect the object using the point cloud data. In the present work, a Kinect sensor is installed on the roof of the pig pen to obtain the 3-D data. After thresholding the depth of each pixel, a depth image is generated where the objects within the depth range are extracted. Several shape based constraints are then applied to refine the detected object regions for accurate estimation of the size and weights for further process.

From [2], Inspired by the success of such face filtering approach, in this paper, we focus on another popular online photo category—animal, which is one of the top five categories in the MSN live image search query log. As a first attempt, we focus on the problem of animal head detection of a set of relatively large land animals that are popular on the internet, such as cat, tiger, panda, fox, and cheetah. First, we proposed a new set of gradient oriented feature, Haar of Oriented Gradients (HOOG), to effectively capture the shape and texture features on animal head.

From [3], AUTOMATIC DETECTION OF MOVING WILD ANIMALS IN AIRBORNE REMOTE SENSING IMAGES : Conservation of wild animals needs adaptive management which is a systematic process for continually improving management policies and practices by learning from monitoring results. However, there is not enough the population size information of large-sized mammals because of their large habitat area. Thus, it is expected to estimate population densities of large-sized mammals using remote sensing. However it costs hard labour to find directly wild animals by visual examination of remote sensing images. In addition, we may overlook some wild animals because remote sensing image is taken from above, not from side. To solve these problems we developed an algorithm for automatic detection of moving wild animals in the snow in airborne remote sensing images with 60 % overlap.

### VI. MODULE SPECIFICATION

We have divided our project into 3 modules. They are:

1. Camera setup Module
2. Animal detection Module



3. Alert Module

**Camera setup module**

Here we are updating the camera which is set up by government. After updating, the camera is focusing on the detection.

**Animal detection module**

In this module our camera works by using artificial intelligence algorithms. After that, if the animal enters then our camera detects and gives the update.

**Alert module**

In this module it focus on animals and alerting. After animal detection, it alerts the forest department and gives buzzer sound to people who are near to that place.

**VII. ARCHITECTURAL DESIGN**



Here in the above figure, the architectural view of the entire application is shown. When an animal enters the villages or people living places then the camera captures the animal and sends an alert message to the forest department and simultaneously sounds a buzzer to alert people.

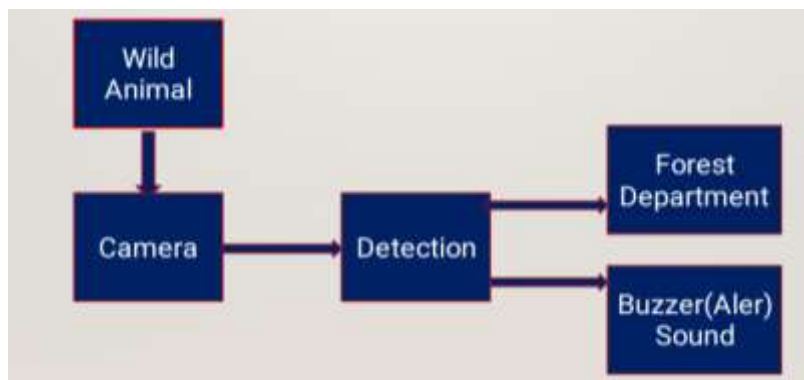
**Design Concepts for Our Project:**

- Abstraction: We only display the statistical data, hiding the raw data and background implementation of the classification of data.
- Modularity: Our application is divided into 4 modules i.e login module, area module, business module and guidance module.

**VIII. ALGORITHM DESIGN**

- Step 1: Start
- Step 2: Capture the things by Camera.
- Step 3: Captured things matches to datasets if it matched go to next step else go step 1.
- Step 4: If it's matched send alert message to forest department. and alert the people through buzzer sound.
- Step 5: People alert and went safe places.
- Step 6: Forest department came and catch the animal and saves people and animal life.
- Step 7: Stop

**IX. DATA FLOW PROCESS**





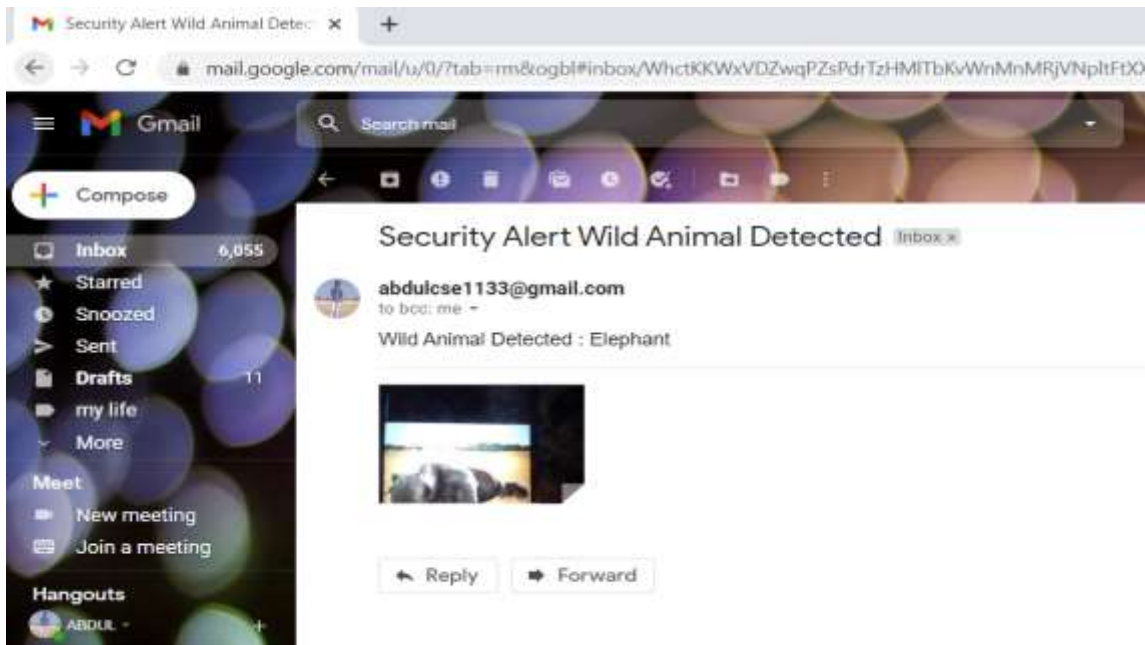
## X. RESULTS

```
Checking Image
Elephant 94.73812866210938
Animal 94.73812866210938
Mammal 94.73812866210938
Wildlife 94.73812866210938
Person 73.2826156616211
Human 73.2826156616211
Elephant
e-Mail Sent
found
Found Animal
```

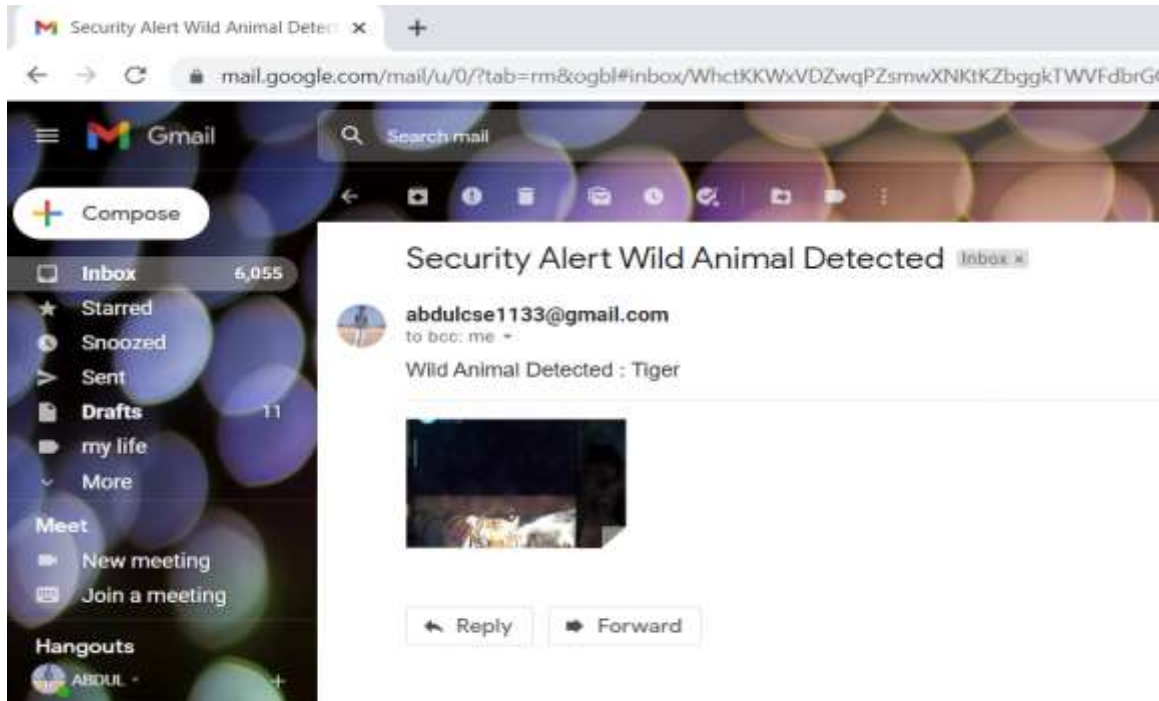
Run code by capture Elephant

```
Checking Image
Tiger 99.84467315673828
Wildlife 99.84467315673828
Animal 99.84467315673828
Mammal 99.84467315673828
Cat 67.6409912109375
Pet 67.6409912109375
Tiger
e-Mail Sent
found
Found Animal
```

Run code by Capture Tiger



Sent mail to Forest department



Sent mail to Forest department

## XI. USER MANUAL

There are several steps to be followed for using this:

- Initially camera is setup with machine learning using aws recognition with the support of Arduino.
- Once camera detect the wild animal it gives information to forest department and people near by forest.
- User is in active mode to hear the alert sound.
- Forest department have an eye on notification alert.
- The buzzer sound alert the people and notification send to forest department.

## XII. CONCLUSION

People who are near to forest area and the forest department are facing a problem of wild animal attack. For this we are providing a solution by updating the cameras which are already fixed by government by using machine learning with aws recognition service provided by amazon. First it detects the wild animal entering into the village or city where human beings are living and automatically it sends notification to forest department and alert the people by using buzzer sound. By this solution we are protecting both animals and human beings.

This application has been successfully computed and was also tested successfully by taking "test cases". The application is developed using Python, Machine learning.

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