

IoT Based Smart Crop Protection System for Agriculture

ABSTRACT:

An intelligent crop protection system helps the farmers in protecting the crop from the animals and birds which destroy the crops. The images of the animals can be captured using the help of camera which can be further processed with the help of python modules. The system also helps the farmer to monitor the moisture level in the field, temperature and humidity values of the field. Several sensors like DHT11, soil moisture sensor module. All the data are stored in the IBM cloud which can be later analyzed. The motor and sprinklers in the field can controlled using the mobile application. The current status of the crops can be viewed remotely.

SOLUTIONS:

- ✓ In this system, cameras will be installed. With its help, we can capture the image of the animal or bird. After the identification of the species, corresponding measures will be taken to divert that animal or bird from the field.
- ✓ This system won't harm the animals or birds. This will just give alerting signal such as sound which tends them move out the farm area, also by the data stored in the cloud can be used to find the type of animals which often invading into the area.
- ✓ In hilly areas, by installation of this system can be very useful to improve the security level of the crops. If there is any caught of the sign of the wild animals such as Elephant, Bison and Wild pigs, a notification will be sent to user as well as alerting message will be sent to the forest department of the particular area.

- ✓ The status of the crops and factors affecting the field environment such as temperature, humidity and soil moisture can be monitored continuously from any remote locations.
- ✓ The actuators such as sprinklers, solenoid valve to control the flow of the water into the field can be controlled with the help of the mobile application. The actuators depends on the kind of the land area such as hill, plain, valleys.