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Auto Insurance Claim System for Farmers

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Abstract: Natural disasters such as droughts, floods, cyclones, and animal attacks commonly impair agriculture production and farm revenue in India. Contract farming and futures trading are two contemporary examples of procedures that are Price changes are expected to provide some protection, either explicitly or implicitly. Agricultural protection, on the other contrary, is considered a necessary tool for efficiently addressing the risk of output and revenue loss caused by a variety of natural and artificial disasters. For the benefit of farmers, the GOI (Government of India) has implemented a number of agricultural programmes around the country. Information about various government agricultural programmes is now available on the internet in the form of websites and mobile apps, thanks to advances in technology and internet services.
Keywords: Insurance, Flood, Animal detection

I. INTRODUCTION

Machine learning includes deep learning as a subset. Deep artificial neural networks are a collection of algorithms that have set new standards for accuracy in a variety of areas, including face recognition, voice identification, and so on. In our project, there is a detection of animal attack, flood detection, and plant disease detection. Investigating the effects and extend of the events in shorter time is the main gaol of the project. The utmost importance is given for the quantity of damage, to determine the insurance refunds, and establish a prediction model. The goal of this project is to explore the damage amount, from the given input of floods, animal attacks, and pest attacks using a The thin operation, the edge extraction method, and the label connected components method are all morphological functions. A damage detection approach based on components was proposed. Auto claim of farmers insurance based on the type of damage that happened is scrutinized. The implementation this approach was made out using OpenCV / Python which is a highly performing language.

II. LITERATURE SURVEY

A. Design of an IoT-based Flood Detection System using Machine Learning"-2021

Abstract: Due to their semi and dynamic nature, floods are a challenging occurrence that is hard to predict. Gauging stations that send measurable information to the server are frequently positioned in harsh and remote areas, increasing the risk of data loss. The goal of this research is to use deep learning to create a real-time, efficient flood monitor and detection system.

B. Plant disease detection based on Deep learning approach-2021

Plant diseases affect the expansion of their species, therefore early detection is extremely vital. However, until the occurrence of the machine learning set, i. e., Deep learning, this research space tends to have strong potential in terms of improved precision several kinds of deep learning instrumentation have been used for the looking into and classifying of plant diseases.

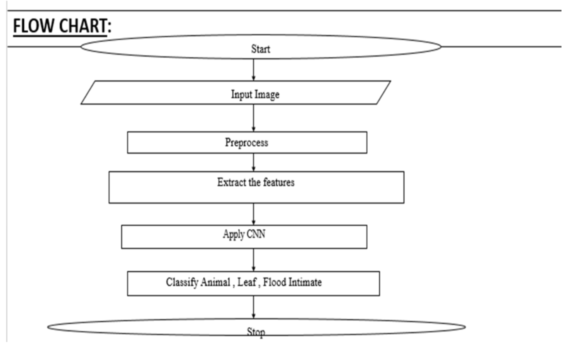
C. Choosing an Agricultural Insurance Strategy

The report examines the dangers that farmers who produce agricultural crop goods face. These dangers are linked to the unknown yield of the crops planted and the price of the goods produced. The mathematical models of the leading agricultural insurance programmes are presented, together with their characteristics. Recommendations for selecting the appropriate programme are made based on the findings.

III. PROBLEM STATEMENT

Traditional methods for detecting geographic damage from natural disasters include facility inspection patrols, even if modest damage is ignored in favour of major damage. However, grasping it takes longer. When a large-scale natural disaster occurs, such as a flood or an animal attack, the scope and severity of the destruction should be assessed promptly in order to determine life/property support operations. It's difficult to estimate the destruction in a global context using solely human efforts. This is the primary reason for our examination of the usability of image processing techniques used in aerial images. However, whether or not this technique is genuinely effective for the objective is highly dependent on the correctness of the image processing results.

IV. FLOWCHART



V. SEQUENCE DIAGRAM

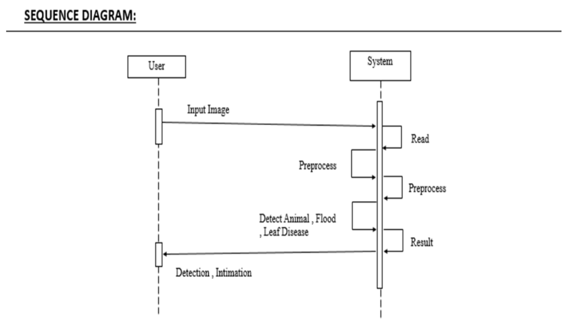
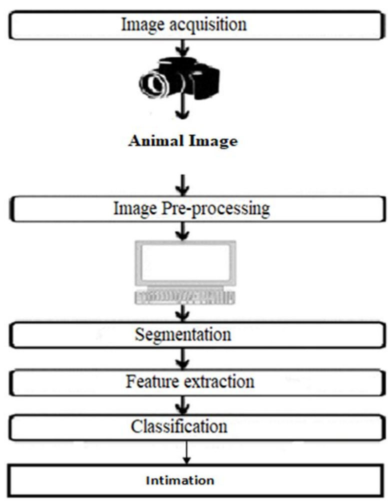


Figure 4. Sequence diagram of the CNN model

VI. WORKING METHDOLOGY



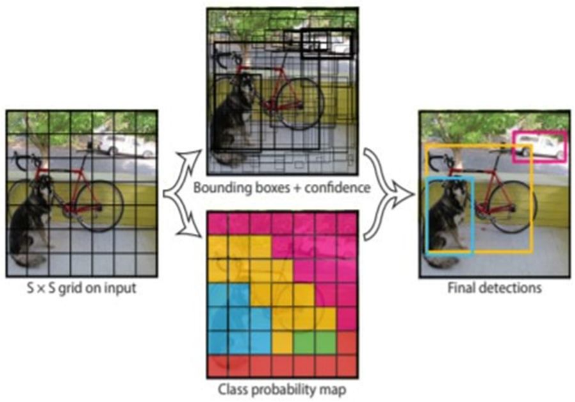
The training phase and the testing phase are the two phases of our suggested system. Pre-disaster (RGB, three channels) and post-disaster (RGB, three channels) alterations are used as input training patches (RGB, six channels), which are aligned top to bottom. This section demonstrates the originality of our study, which results in a high degree of accuracy. The original goal of our study was to learn about catastrophic changes as early as possible. In other words, the differences between pre-disaster (RGB, three channels) and post-disaster (RGB, three channels) imagery are learned as change detection picture features. The only feature of the disaster from post-disaster is absorbed as the feature of disaster in most previous research, so when query imagery meets the character of disaster, it will be evaluated. After the detection of disaster happened we will classify the type of disaster in terms of animal, human, and pest types of attacks.

Then the auto insurance model automatically updates the farmer's details for claiming the insurance.

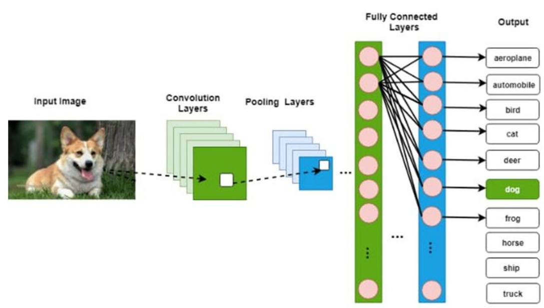
VII. ALGORITHMS USED

A. Yolo Algorithm

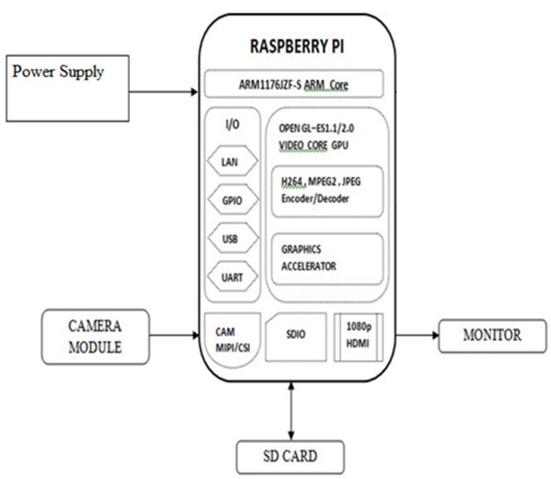
More simply, You Look Only Once (YOLO) suggests that just "looking at the object only once" means in the input image it requires only one forward propagation which proceeds through the network for making predictions. It is remarked that YOLO is significant for the detection of real-time objects [14] [18]. It appeals to a one-single forward pass absolutes image and anticipates coordinates and their class possibilities.The network has 53 convolutional layers and is additionally assembled with 53 more layers for the detection head, and hence the formation of YOLOv3 is a total of 106 layers of the fully convolutional underlying architecture. The detection for ultimate results of the output of a fully convolutional network is performed by applying 1x1 detection kernels on a feature map of three non-identical sizes at three non-identical places this process is known to be a Multi-Scale detector. The Multi-Scale detector is used for verifying that small objects are also actually detected.



B. Cnn Algorithm



VIII. BLOCK DIAGRAM



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IX. CONCLUSIONS

It implements the insurance system using the notion of smart contracts. After analysing the data, we discovered that the proposed system is effective, as evidenced by acceptability testing, and thus the proposed system can be implemented on a larger scale for the benefit of the agro-industry.

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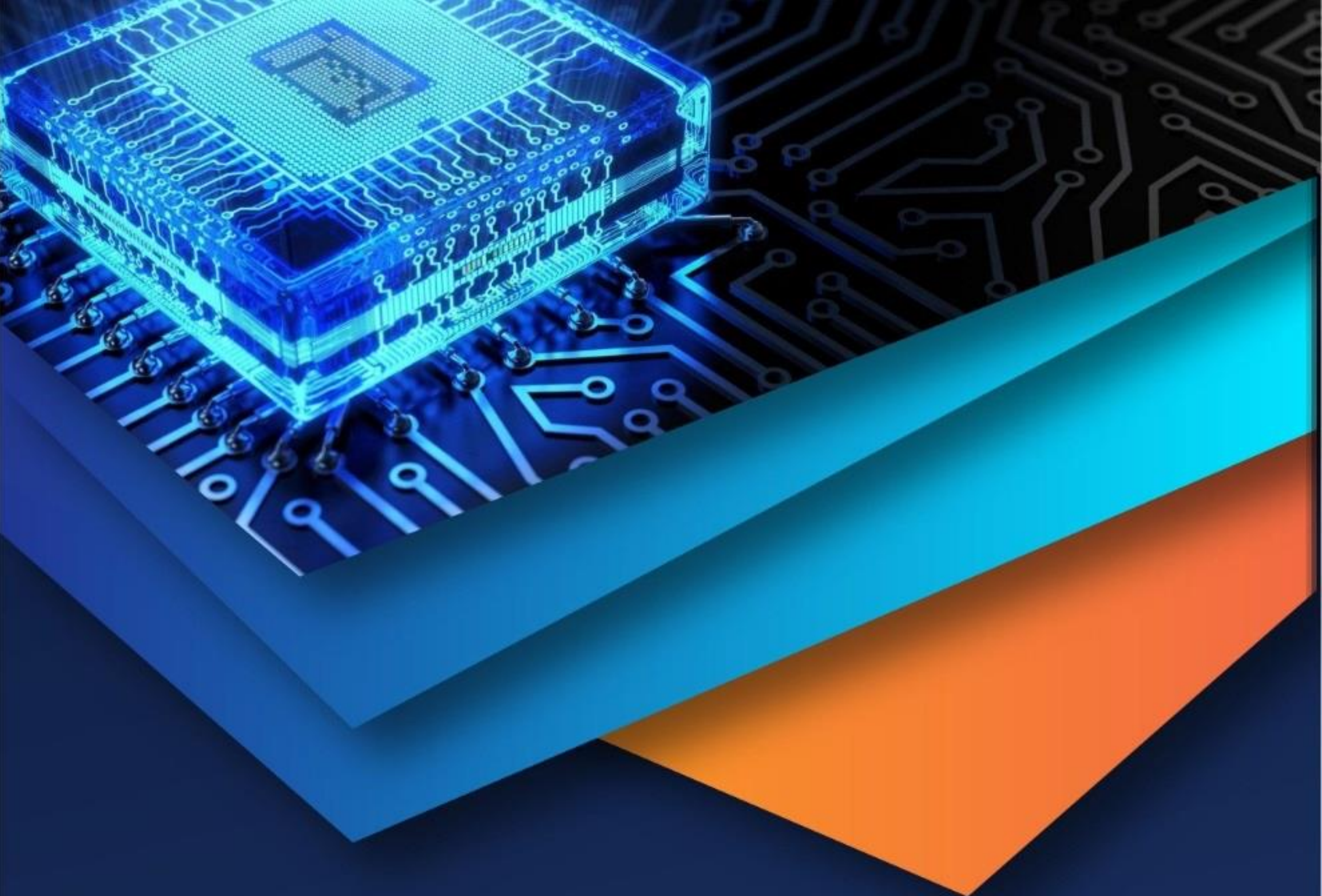

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