Image recognition Project

Scope of the work

7th September 2017

OVERVIEW

This document describes the scope of the work a A.I. expert has to undertake. The deliverables are also mentioned in this document to give a fair idea of the whole project work.

Goals

1. To create a self learning and highly accurate image recognition model which can identify the crop pests, disease and nutrient deficiency.
2. This should be a server based model and should have APIs to talk with the mobile app.
3. Detailed documentation of the development and all other aspects of the work done followed by a conference call to explain it. So that the inhouse team can undertake and execute small tasks efficiently.
    a. This could be adding new images to the dataset.
    b. Adding new type of disease, pest or deficiency dataset.
    c. Adding new crop.
    d. Training these images.

SPECIFICATIONS

You have to create a highly accurate model (accuracy more than 95%) based on TensorFlow. It should be a self learning model which keeps getting more and more accurate as and when new images are added to the dataset.

HOW SHOULD IT WORK?

Image recognition

- All the data of the images should be placed on a google cloud server/AWS (Google is prefered).
- When a user uploads any images it should go to the server.
- The image recognition model on the server will analyse and match the image with the images in the dataset.
- The image will be identified.
- The server will then send the name of the crop and disease, pest or deficiency along with the description, preventive measures and cure to the app.

Self learning model

- User uploads an image in the app.
- It is sent to the server for analysis and the server responds with the result.
- The uploaded image is then trained automatically and gets added to the relevant dataset.
- This way the app should keep growing more accurate and intelligent.

Deliverables

1. All code, database, images, patterns, image recognition models etc developed during the project.
2. Documentation of the activity and know how of the project so that new images can be added to the database as and when required.
3. The accuracy of the model should be more than 95% and should keep growing automatically as and when the images are added to the dataset.
4. **A demo app** or url to check the accuracy and deep learning ability of the model.
5. Technical support for a period of 3 months. This could be billed in addition to the development cost and should be at a concessional rate.

Things provided -

1. The prototype of the application to understand the flow and utility of the app.
2. Images of crop pests, diseases and nutrient deficiency for training and model creation.