

## **CASE STUDY 03**

### **CNN**

You are given a dataset containing images of 15 types of common vegetables. Your task is to create a binary classification model to distinguish between two selected types of vegetables.

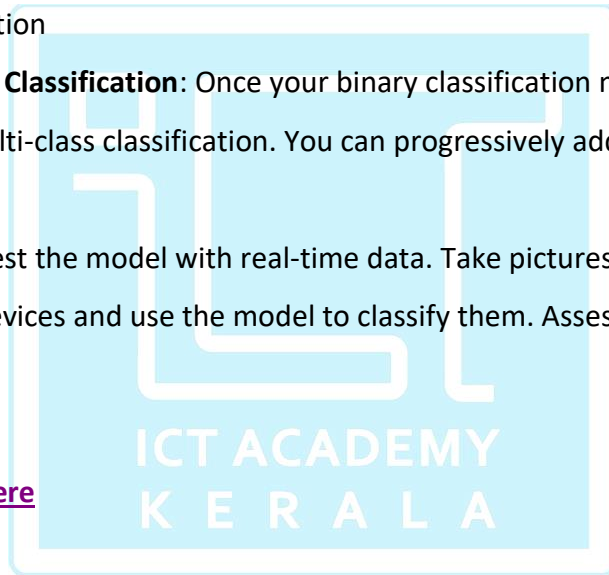
After extracting the data and selecting the two vegetable types, follow these steps:

- Data Preprocessing
- Model Building
- Training
- Evaluation
- Model Optimization

**Extension to Multiclass Classification:** Once your binary classification model is working well, extend it to support multi-class classification. You can progressively add more vegetable types to the model.

**Real-Time Inference:** Test the model with real-time data. Take pictures of vegetables with your smartphone or other devices and use the model to classify them. Assess the model's performance.

**Dataset :** [Please click here](#)



**Please note the following:**

- Give headings to each step you are doing.
- Do the case study in Python.
- Create a repository in GitHub account as "Public".
- Upload the notebook file (. ipynb) to the repository.
- Please make sure that you are uploading the notebook file including the outputs as well.
- Share the link of this notebook from GitHub in the online text editor provided in Paatshala.