Title :
Helping Farmers Classify and Detect Plant Diseases on their Crops Using AutoML and the EfficientNet V2 model.

Project Guide:
Vasundhara Acharya

Problem Statement:
Plant diseases are a significant threat to farmers, consumers, the environment, and the global economy. Plant diseases have always been a challenge to plant growth and crop production in several parts of the world. In India alone, 35% of field crops are lost to pathogens and pests, causing losses to farmers. This has put a lot of pressure on everyday farmers who put a lot of time and effort into cultivating and nurturing their crops. The existing state-of-the-art techniques involve the use of computationally expensive architectures, which are not always feasible.

Research Description (Brief):
This study aims to experiment with the efficacy of a deep learning model for classifying and detecting plant diseases. The model used for classification is the **state-of-the-art EfficientNet-V2**, and for detection, instead of conventional detectors, **ScoreCam** is used. The dataset used for this study has 87k images of 14 different plant types and 38 distinct plant diseases.

Link to Dataset:
https://www.kaggle.com/vipoooool/new-plant-diseases-dataset

Request for aid:
To help uphold the scientific integrity of our study, we would conduct a small *double-blind* experiment where we email randomly sampled images from our dataset to diagnose the plant disease and identify the area of infection on the leaf image.