Diseases recognition on plants

The project implements a supervised machine learning algorithm for determine
If a plant leaf have a disease or not, the dataset for training the system come from PlantVillage and is posted in Kaggle (see Data section below),
Here an extract from dataset introduction explains : " ***Human society needs to increase food production by an estimated 70% by 2050 to feed an expected population size that is predicted to be over 9 billion people. Currently, infectious diseases reduce the potential yield by an average of 40% with many farmers in the developing world experiencing yield losses as high as 100%. The widespread distribution of smartphones among crop growers around the world with an expected 5 billion smartphones by 2020 offers the potential of turning the smartphone into a valuable tool for diverse communities growing food. One potential application is the development of mobile disease diagnostics through machine learning and crowdsourcing. Here we announce the release of over 50,000 expertly curated images on healthy and infected leaves of crops plants through the existing online platform PlantVillage. We describe both the data and the platform. These data are the beginning of an ongoing, crowdsourcing effort to enable computer vision approaches to help solve the problem of yield losses in crop plants due to infectious diseases.***"

The complete system is developed and integrated inside a web application developed in Python Flask, the web site is divided in different section as below :

1. Config Section
    a. Start new Session
    b. Session Status
    c. Reset Session
    d. General Config
2. Load Data
    a. Upload Files
    b. List Uploaded
3. Data Wrangling
    a. Separate section of website TBD (next iteration)

4. Data Exploration
    a. Separate section of website TBD (next iteration)

5. Feature Engineering
    a. Separate section of website TBD (next iteration)

6. File Output

    a. All Files by Session
    b. General Config by Session
    c. Dictionary Files by Session
    d. Plots by Session
    e. Dataframe Info by Session
7. Ensamble
    a. List of classifier with parameters for Random/Grid search optimization

- **Data**: PlantVillage dataset from Kaggle (DataSet) contains original RGB images, gray scaled and segmented and color corrected part of image.

- **Github**: The repository of project is in https://github.com/thatsme/springboard