Corn or Maize Leaf Disease Dataset

1. Singh D, Jain N, Jain P, Kayal P, Kumawat S, Batra N. PlantDoc: a dataset for visual plant disease detection. InProceedings of the 7th ACM IKDD CoDS and 25th COMAD 2020 Jan 5 (pp. 249-253).

2. J, ARUN PANDIAN; GOPAL, GEETHARAMANI (2019), "Data for: Identification of Plant Leaf Diseases Using a 9-layer Deep Convolutional Neural Network", Mendeley Data, V1, doi: 10.17632/tywbtsjrjv.1

Problem Identification
How can we use computer vision to develop a classification model that can correctly label images of healthy and diseased corn leaves?

Context
The United States is the largest producer of corn in the world. As a staple crop, corn plays a large role in the economy as a key ingredient in many manufactured goods. Being able to differentiate between healthy corn leaves and different diseases early on can allow for quick and effective treatment mitigating any potential losses or food security issues.

Criteria for Success
Building a successful model that can classify corn leaf disease from pre-labeled images.

Scope of Solution Space
Train a convolutional neural net on the images to classify the corn leaves. Optimize hyperparameters such as the number of layers, node, max pooling, or filtering.

Constraints
Possible constraints to solving the business problem of identifying disease in corn include images having different backgrounds and lighting. Some images are taken and different zoom levels or angles which means our model should be translationally and rotationally invariant. Some images also have the corn leaves partially occluded by human hands.

Stakeholders
Corn farmers and other key players further down the supply chain.

Data Sources
https://www.kaggle.com/datasets/smaranjitghose/corn-or-maize-leaf-disease-dataset?sort=votes