

twosome

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PS

to detect and claasify image as
plant part giving them levels
using ml model

Image Preprocessing

i tried to preprocess images by removing blur image, inducing rotation, flip, translation but since they are increasing inference time so i didn't did any and trained it on basis of EfficientNet-B0 and ImageDataset class .

Used torchvision.transforms to resize images and convert them to tensors.

Model comparison and fine tuning

we experimented with several models like ResNet, MobileNet, and EfficientNet, and by considering inference time and model and cross-validation accuracy we choose EfficientNet

For fine tuning of model i applied concepts such as cyclic learning rate scheduler and early stoppage and found out that for LR = 0.001 and epoch = 5 EfficientNet is giving best results.

i didn't included code for these two methods and cross-validation (which i did using 5 folds) as they are increasing run time as well as inference time.

as we decreased batch size(1, 8) our accuracy decreases by large difference, batch size of 32 is giving good result.

RESULT

i am getting accuracy of 0.98 and f1
score as 0.97

Refrence

Aurelien-Geron-Hands-On-Machine-Learning-with-Scikit-Learn-Keras-and-Tensorflow_-Concepts-Tools-and-Techniques-to-Build-Intelligent-Systems-OReilly-Media-2019

https://github.com/sonhm3029/Bad_Guy_Classification_EfficientNet



THANK YOU