Zero Deforestation Mission

Team Macros – Data Science – DT62

We built the data loader to load the training and validation dataset (by splitting) from the “train” dataset that has been provided.

Then the images are transformed to resize and normalize for the exact feature extraction

Initially, We have tried the VGG16 (CNN) model for the training, but the computational time was taking so much time and the model was not getting trained well. We evaluated the model with learning curves (training and validation loss curves).

The model looked underfitting. So, we had to increase the training dataset to make the model a good fit.

So, we increased the dataset by image augmentation (rotation, flip up, warp).

But still, the model was not performing well. We then realized the layers are more in the network and tried using dropout regularization

Even though the model was not learning much.

We then decided to use MobilenetV1 (CNN) model.

The dataset classes were still in unbalanced numbers, so we wanted to add more augmented images to class “2” and class “1” to make the numbers balance and also in order to decrease the bias for the model towards class “0” as they are high in number.

Initial the classes were:

class “0”: 860
class “2”: 658
class “1”: 196

Later we modified the layers of MobilenetV1 to achieve better results

This time the model was performing very well and it has been evaluated through learning curves. (Training loss and Validation loss)

Then the f1_score was determined for the predicted values and the ground truth

After so many modifications we have got some f1_score(macro) which we considered very high for this image classification

Then we processed the test images for the prediction

THANK YOU