Instituto Superior de Agronomia, ULisboa

Green Data Science

Practical Machine Learning/Aprendizagem Automática Aplicada

Questionnaire #2, March 3, 2023 – One possible resolution

Name:_____

1. Which classes did you consider for your image classification problem?

   R: Type of rural landscape, which could be “agriculture”, “forest”, “mixed”

2. Describe your classifier errors over the validation set (confusion matrix) and do a short discussion of the results you got.

reference/predicted	agriculture	forest	mixed
agriculture	45	9	25
forest	8	53	36
mixed	17	20	45

   As expected the mixed label is the hardest to predict correctly, while the classifier performs reasonably well in distinguishing agriculture and forest photos.

3. Where you able to deploy your model on HuggingFace Places or another web site? What is the url?

   R: https://huggingface.co/mlc/landscape_classifier

4. What was the input size of the images, i.e. what are the (row, column) dimensions of the first layer of the deep learning model you used ?

   R: 224 by 224 pixels

5. Data augmentation refers to creating random variations of our input data, such that they appear different, but do not actually change the meaning of the data. From the list below, indicate three techniques that correspond to data augmentation:
   - rotation (x)
   - classification
   - cropping
   - flipping (x)
   - resampling (i.e. changing the resolution)
   - brightness changes (x)

In the correction of the exercise, “cropping” and “resampling” were also considered correct since “data augmentation” can encompass a large array of techniques.