Deep Learning

Data Augmentation & Transfer Learning

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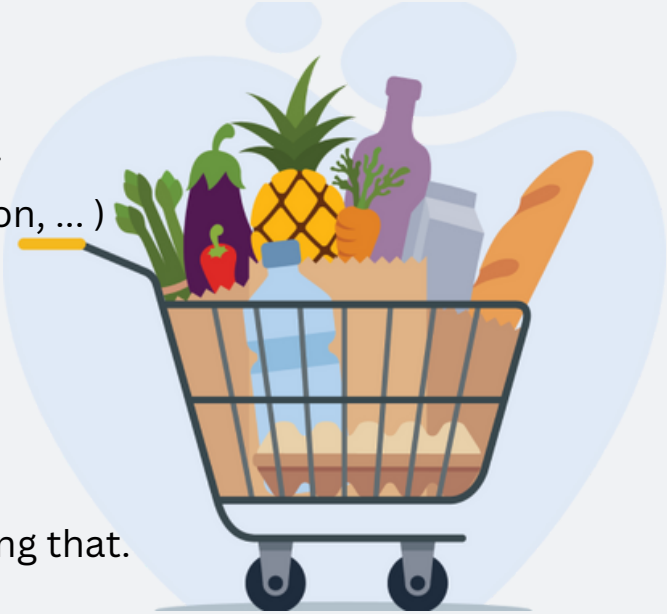
Design and Train a CNN model using the Freiburg groceries dataset. Observe the following points*.

- Load images and create a string tag for all of them. (using tqdm)
- On-hot the string labels.
- Add 500 images to the dataset using data augmentation (image generation).
- Use at least 3 desired arguments for the image data generator. (zoom, rotation, ...)
- Concatenate generated data.
- Use VGG16 as a pre-trained model. (Freeze the weights of VGG16)
- Design a suitable CNN network.
- Use the trained model to predict one sample image.
- Save the model use that in another script. and predict one sample image using that.
- Is the model suffering from overfit or underfit?



*The above points order is not important.

You can find the dataset in the school's repository or download that using the following link:
Link of Freiburg groceries dataset :
http://aisdatasets.informatik.uni-freiburg.de/freiburg_groceries_dataset/freiburg_groceries_dataset.tar.gz