Homework nr. 2

First experiment

For the first experiment I did the following things:

1.Used seed for reproducibility

2.Using early stopping during training

3.Added a learning rate scheduler: ReduceLROnPlateau

4.Added checkpoint saving utility

5.USED ADAM OPTIMIZER, to see how predictions improve

6.Did minimal data augmentation: Used mirroring

Best score for the first experiment: 0.64750

Running time for the training loop:

Second experiment

For the second experiment I did the following things:

1.Added these data augmentation techniques: RandomCrop,RandomHorizontalFlip,RandomAffine,ColorJitter

2. Because the Adam optimizer improved my score in the first experiment, I decided to keep it for the second experiment to see how data augmentation changes my results.

3.Changed LRScheduler to CosineAnnealing

4.Smoothed labels

5.Added epochs

Best score for the second experiment:

Running time for the training loop:

Third experiment

For the third experiment I did the following things:

1. I used CutMix and Mixup

2. I kept the rest of the configuration the same

Best score for the second experiment:

Running time for the training loop:

Fourth experiment

For the fourth experiment I did the following things:

1. Configuration is the same as first experiment, but i used this optimizer: SGD but with momentum.

Best score for the second experiment:

Running time for the training loop: