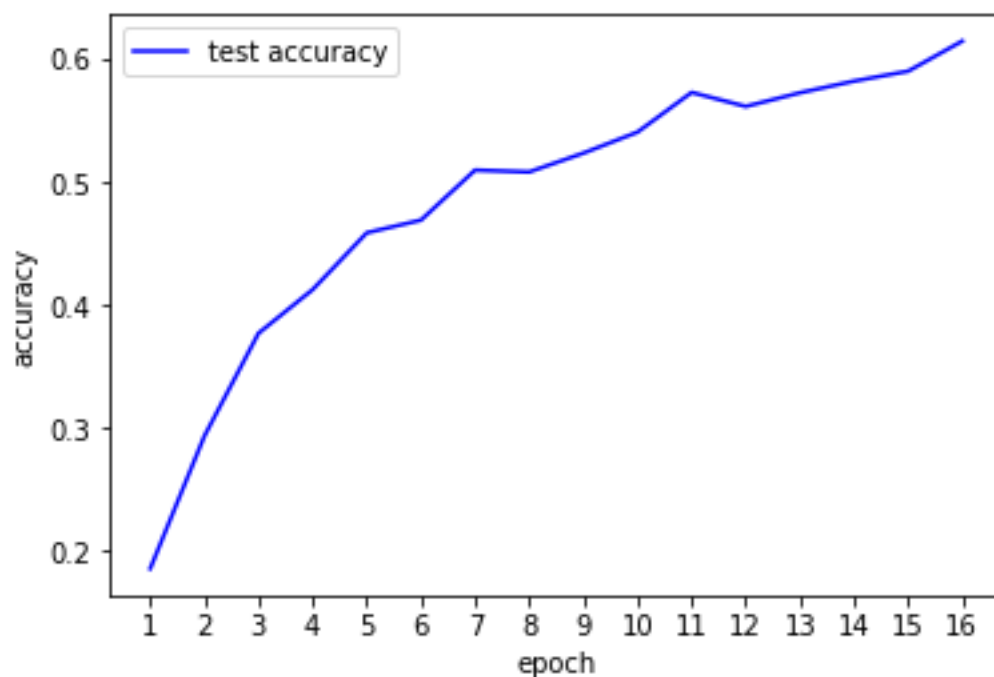


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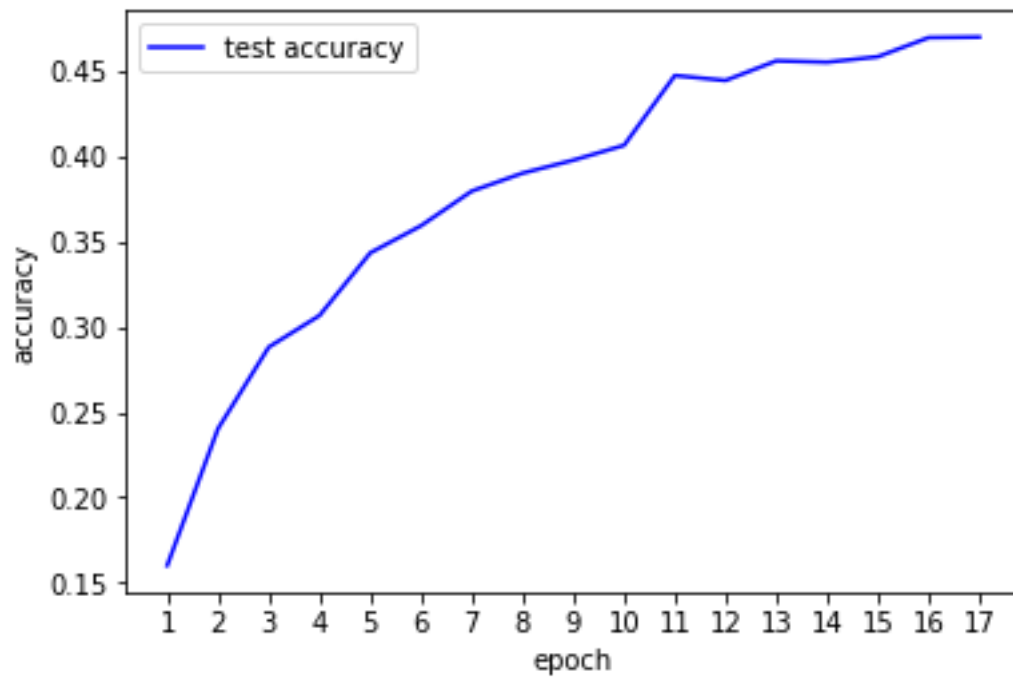
1. resnet_cifar100

- (1) Test accuracy: 0.6150
- (2) I use the architecture showed in the slides and set the dropout probability and the size of max pooling to 0.5 and 2.
- (3) The learning rate is 0.0005 in the first 10 epoch, 0.00025 in the 11~15 epoch and then becomes 0.0001 in the rest epoch. The total number of epoch is 16, and the batch size is 50.
- (4) I trained this Resnet with ADAM.
- (5) For data augmentation, I flip the picture horizontally with the probability of 0.5 and randomly crop the image with padding = 3 and padding_mode='edge'.
- (6) I trained this Resnet on my own computer.
- (7) Learning curve:



2. resnet_tinyimagenet

- (1) Test accuracy: 0.4697
- (2) I use the architecture showed in the slides and set the dropout probability and the size of max pooling to 0.5 and 2.
- (3) The learning rate is 0.0005 in the first 10 epoch, 0.0003 in the 11~15 epoch and then becomes 0.0001 in the rest epoch. The total number of epoch is 17, and the batch size is 50.
- (4) I trained this Resnet with ADAM.
- (5) For data augmentation, I flip the picture horizontally with the probability of 0.5 and randomly crop the image with padding = 6.
- (6) I trained this Resnet on the blue water.
- (7) Learning curve:



3. pretrained_cifar100

(1) Test accuracy: 0.7302

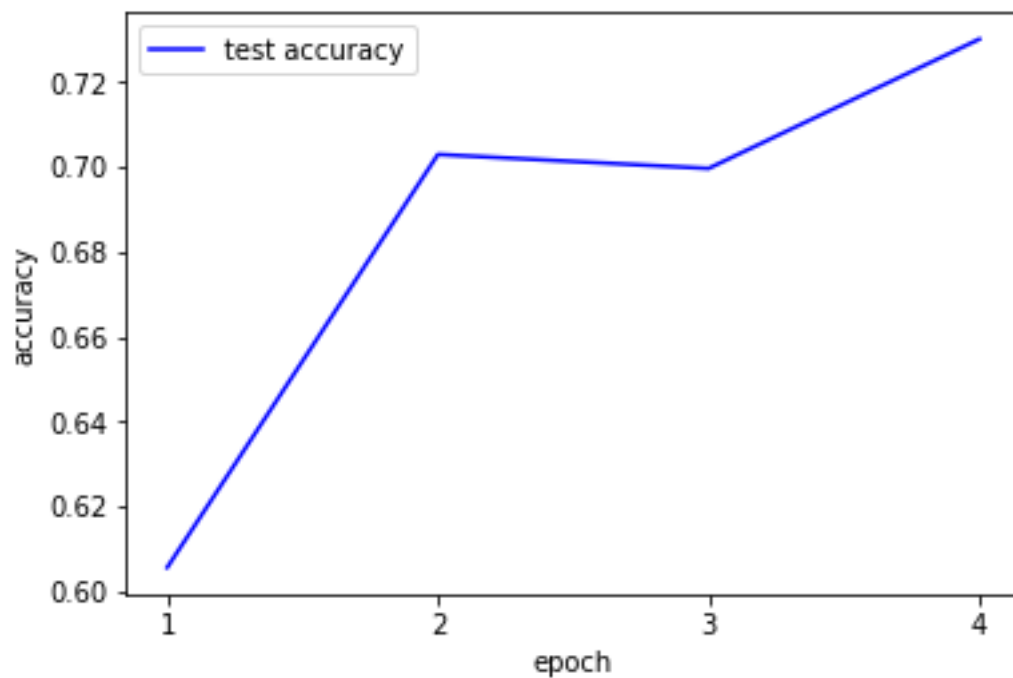
(2) The learning rate is 0.0005. The total number of epoch is 4, and the batch size is 50.

(3) I trained this Resnet with ADAM.

(4) For data augmentation, I flip the picture horizontally with the probability of 0.5 and randomly crop the image with padding = 3.

(5) I trained this Resnet on the blue water.

(6) Learning curve:



4. sync_sgd_cifar100

- (1) Test accuracy: 0.6093
- (2) I use the architecture showed in the slides, and set the dropout probability and the size of max pooling to 0.5 and 2.
- (3) The learning rate is 0.0005 in the first 7 epoch, 0.00025 in the 8~14 epoch and then becomes 0.0001 in the rest epoch. The total number of epoch is 18, and the batch size is 50.
- (4) I trained this Resnet with ADAM.
- (5) For data augmentation, I flip the picture horizontally with the probability of 0.5 and randomly crop the image with padding = 3.
- (6) I trained this Resnet on the blue water.
- (7) I randomly separate the dataset into two parts for two model training at the beginning of each epoch which helps me to improve the accuracy.
- (8) The code of class Partition and DataPartitioner is from this link: https://pytorch.org/tutorials/intermediate/dist_tuto.html
- (9) Learning curve:

