Deeplearning HK5   Participants: 1° Hanzhi Zhuang   2° Rui Song   3 Tengyunhao Yang
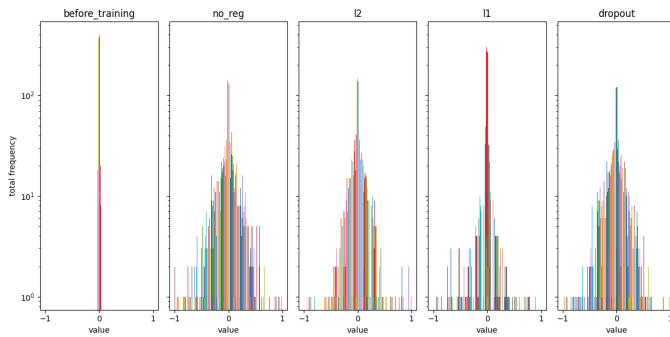   5578347   5576534   5587382

1. 4)

2. Pen & Paper Questions.

1) 1. 1° rotation 2° scaling 3° reflection 4° translation 5° stretching

2. For a MNIST dataset, reflection doesn't make sense, because reflected numbers are no longer numbers and shouldn't be learned. Color shifting also doesn't make sense, because MNIST is greyscale, changing color channels doesn't represent variations of written digits in reality.

2) 1. Early stopping uses validation loss curve to decide when to stop the training. The training should be halted when the validation loss stops decreasing and shows no further improvement. This is usually the point to indicate that the model begins to overfit. Early stopping stops the training process at an optimal point so that the model is better generalized to new data.

2. Early stopping stops the training process before the model starts to overfit, prevents the model from continuing to learn the features owned by training data, which will forget to generalize.