AI5213/EC4213/ET5402/CT5303/FE5402: Machine learning and deep learning Spring 2021

Report for CA1

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Report1 : Describe model your have used (1. architecture overview and 2. any specialty of this model.)

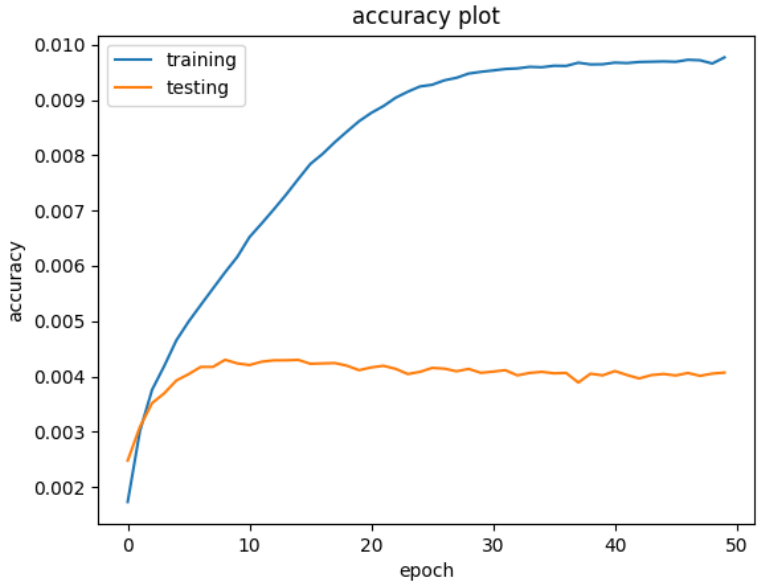
I used Convolution Neural Network model.

Our architecture includes 4 convolution layer and 2 fully connected layer

After every convolution layer, I used Batch Normalization, ReLu Activation Function to detach non - linearlity and maxpooling.

Convolution layer output channel is getting bigger and bigger to capture the image feature.

Report2 : Report both the training and testing accuracy in a plot (x: epoch, y: accuracy).



Training accuracy is too high. Test accuracy is lower than the Training accuracy

Overfitting in my architecture. it is hardly fit the train data

Report3 : Discuss any ideas to improve the accuracy (e.g., new architecture, using new layers, using new loss)

There is problem that more fitting the train data.

To overcome the overfitting and improve the accuracy, I will use data augmentation technique.

Data augmentation is a technique that slightly variate to original data to generate diverse data.

For example, Rotate the image, Flip the image, Resize the image.

And we need to hyperparameter tuning. We don`t know our batch size and learning rate is optimal to our model. So we tune the hyperparameter using the hyperparameter search method.