

CS 6476 Project 4

[name]

[GT email]

[GT username]

[GT ID]

Part 1: SimpleNet

[Insert loss plot for SimpleNet here]

[Insert accuracy plot for SimpleNet here]

Final training accuracy:

Final validation accuracy:

Part 2: SimpleNetFinal

Add each of the following (keeping the changes as you move to the next row):

	Training accuracy	Validation accuracy
SimpleNet		
+ Jittering		
+ Zero-centering & variance-normalization		
+ Dropout regularization		
+ Making network "deep"		
+ Batch normalization		

Part 2: SimpleNetFinal

[Insert loss plot for SimpleNetFinal here]

[Insert accuracy plot for SimpleNetFinal here]

Final training accuracy:

Final validation accuracy:

Part 2: SimpleNetFinal

[Name 10 different possible transformations for data augmentation.]

[What is the desired variance after each layer?
Why would that be helpful?]

Part 2: SimpleNetFinal

[What distribution is dropout usually sampled from?]

[What is the effect of batch norm after a conv layer with a bias?]

[How many parameters does your base SimpleNet model have? How many parameters does your SimpleNetFinal model have?]

Part 3: ResNet

[Insert loss plot here]

[Insert accuracy plot here]

Final training accuracy:

Final validation accuracy:

Part 3: ResNet

[Insert visualization of confusion matrix obtained from your final ResNet model.]

Part 3: ResNet

[Insert visualizations of 3 misclassified images from the most misclassified class according to your confusion matrix. Explain why this may have occurred.]

Part 3: ResNet

[What does fine-tuning a network mean?]

[Why do we want to "freeze" the conv layers and some of the linear layers from a pre-trained ResNet? Why can we do this?]

Extra credit (optional)

[Discuss what extra credit you did and provide analyses.]