CS7150.37338.202130 Homework 4

Aishwarya Vantipuli, Harshita Ved, Aveek Choudhury

TOTAL POINTS

3 / 3

QUESTION 1

1 Question 1 **1 / 1**

✓ **- 0 pts** **Correct**

QUESTION 2

2 Question 2 **1 / 1**

✓ **- 0 pts** **Correct**

QUESTION 3

3 Question 3 **1 / 1**

✓ **- 0 pts** **Correct**

Good Project

- How Does Batch Normalization Help Optimization?
- Learning without Forgetting
- Learning to Invert: Signal Recovery via Deep Convolutional Networks
- Explaining and Harnessing Adversarial Examples

Question 1. *Project Planning*

1. What paper are you planning to replicate part of?

   Response: The link to an arxiv copy of the paper is: Rethinking the Usage of Batch Normalization and Dropout in the Training of Deep Neural Networks
   Authors: Guangyong Chen, Pengfei Chen, Yujun Shi, Chang-Yu Hsieh, Benben Liao, Shengyu Zhang

2. What figure or result of the paper are you planning on replicating?

   Response: We plan to replicate the results on the CIFAR-10 dataset as can be seen in Figure 4, and then move to the CIFAR-100 dataset results if resources permit.

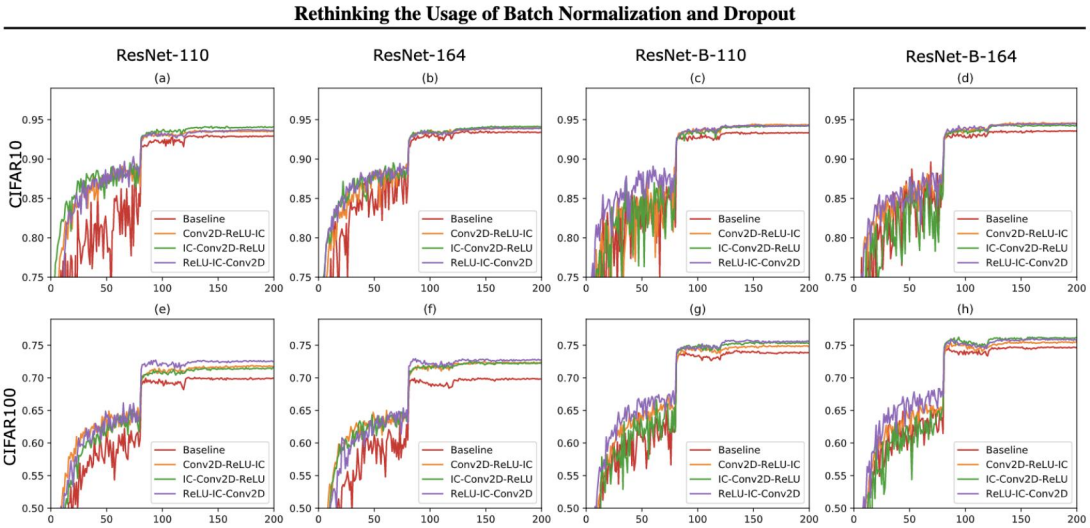

Figure 4. The testing accuracy of implementing ResNet and ResNet-B with the IC layer on the CIFAR10/100 datasets with respect to the training epochs. (a) ResNet110 on CIFAR 10. (b) ResNet164 on CIFAR 10. (c) ResNet-B 110 on CIFAR 10. (d) ResNet-B 164 on CIFAR 10. (e) ResNet110 on CIFAR 100. (f) ResNet164 on CIFAR 100. (g) ResNet-B 110 on CIFAR 100. (h) ResNet-B 164 on CIFAR 100.

3. What aspect of the project do you anticipate being the most difficult and/or time consuming?

   Response: We anticipate training the deep networks on datasets such as the CIFAR 10/100 to be challenging given the size of the dataset, depth of the network and the compute power at our disposal. Resources like Google Colab, even with the Pro version have a timeout of around 24 hours. In such scenario, it might be tedious to train and save our models over multiple days.

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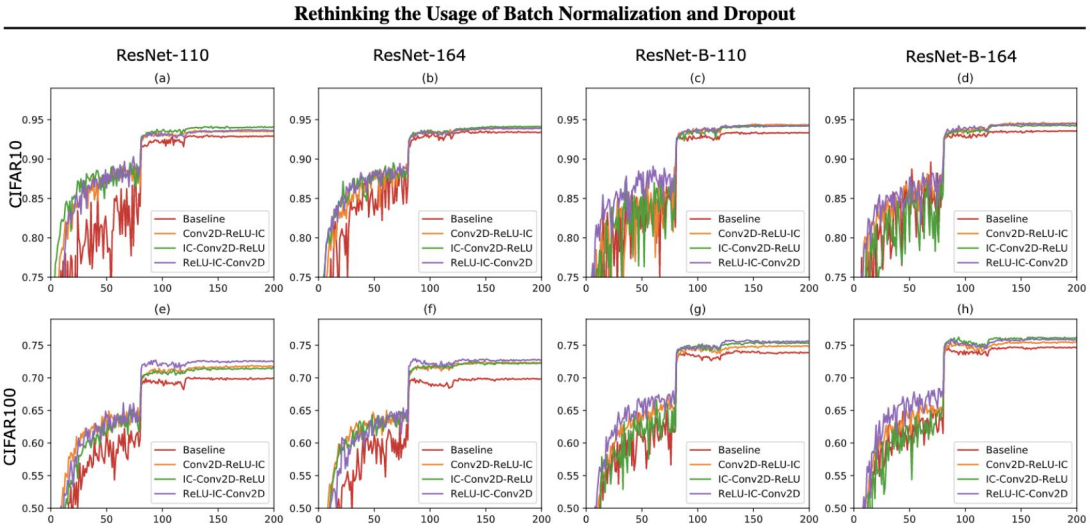

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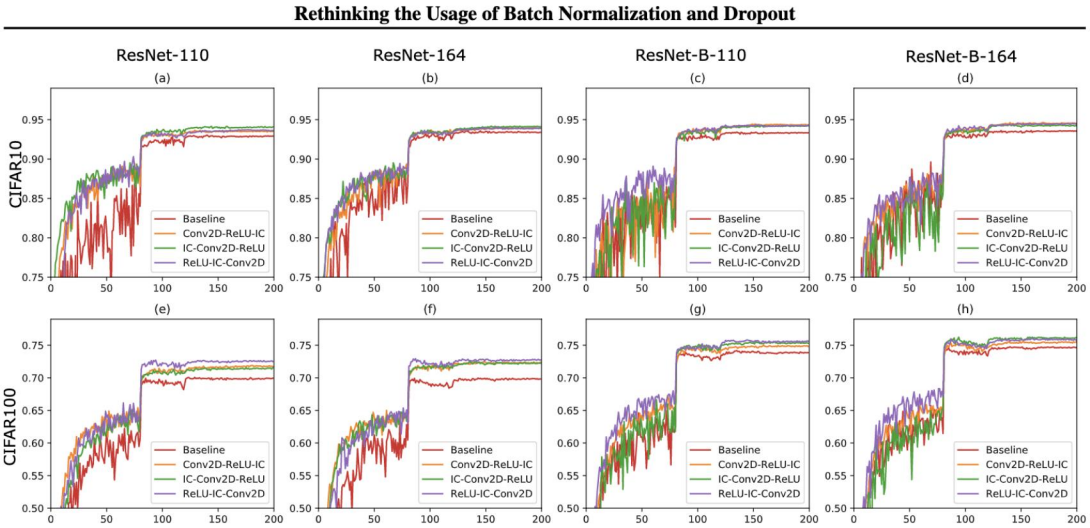

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