1 Time Taken

- Time taken for conv1 = 0.000958919525146 secs
- Time taken for conv2 = 0.00978302955627 secs
- Time taken for conv3 = 0.00294518470764 secs
- Time taken for conv4 = 0.00292491912842 secs
- Time taken for conv5 = 0.0381109714508 secs
- Time taken for fc1 = 0.000120878219604 secs
- Time taken for fc2 = 0.000124216079712 secs

2 Number of Parameters

- Conv 1 : 155
- Conv 2 : 2416
- Fc 1 : 48120
- Fc 2 : 10164
- Fc 3 : 850

3 t-SNE plots

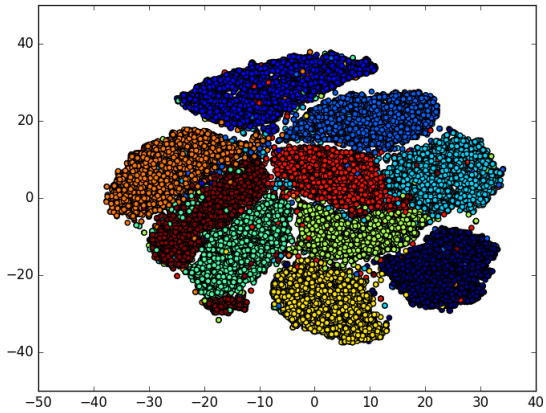

Figure 1: Without 84 dimensional features for 50000 images

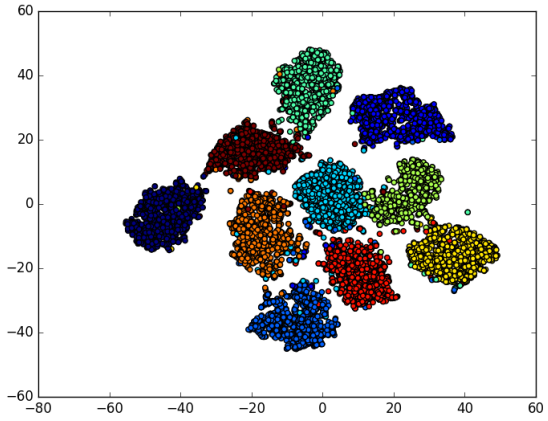

Figure 2: With 84 dimensional features for 10000 images(Keras)

4 Training and Validation Losses

4.1 Conclusion

The training converges fastest with batch size 64 when we observe the loss and accuracy with respect to time.

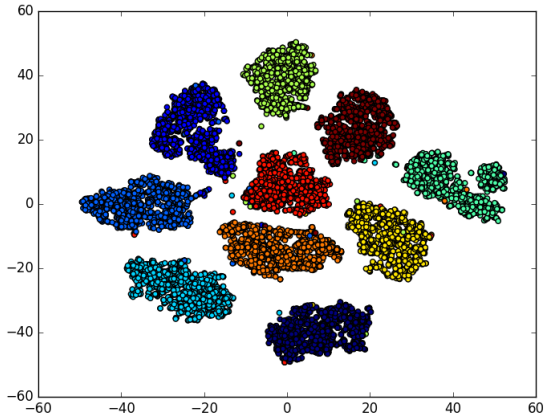

Figure 3: With 84 dimensional features for 10000 images (My Implementation)

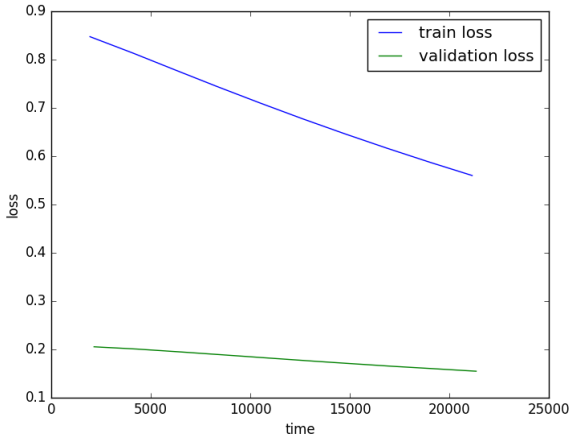

Figure 4: Train and Validation loss for batch size 160 (My Implementation)

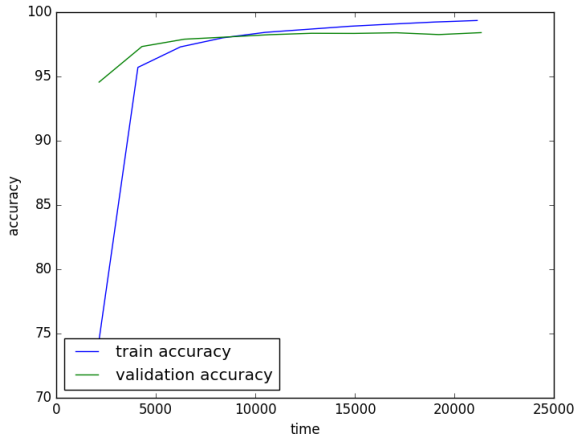

Figure 5: Train and Validation accuracy for batch size 160 (My Implementation)

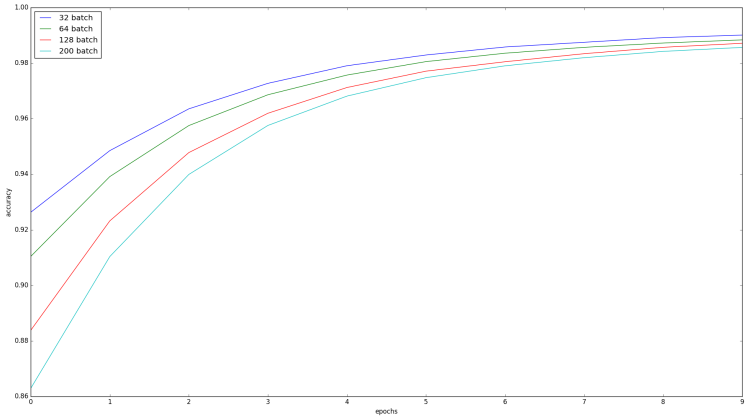

Figure 6: Accuracy on different batch sizes per epoch (Keras)

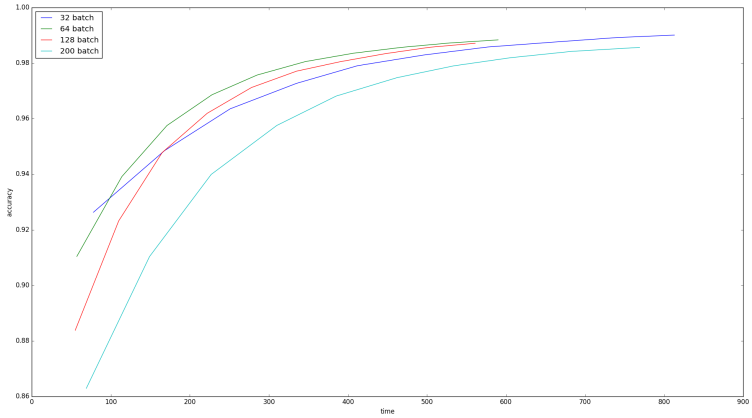

Figure 7: Accuracy on different batch sizes per time (Keras)

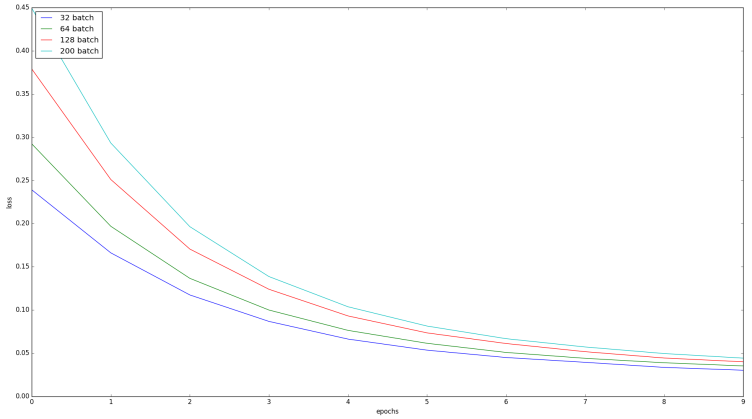

Figure 8: Loss on different batch sizes per epoch (Keras)

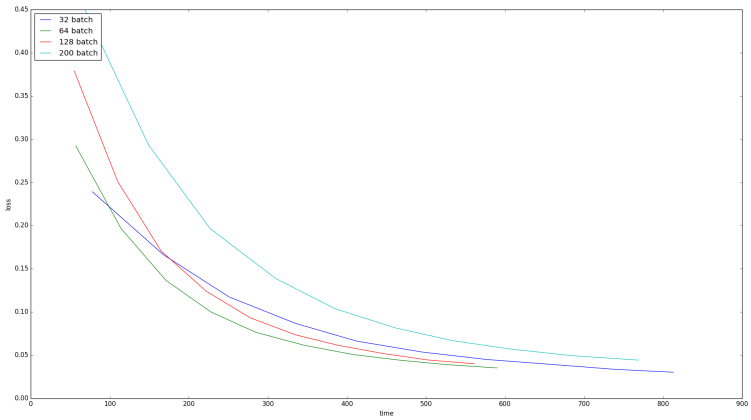

Figure 9: Loss on different batch sizes per epoch (Keras)