

ADL - Exercise 3: Practical Tasks

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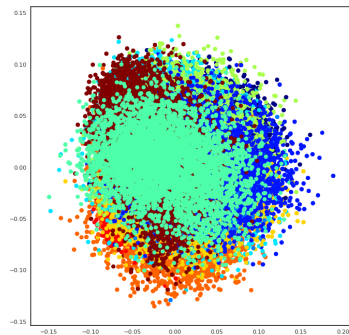
June 4, 2019

1 Training

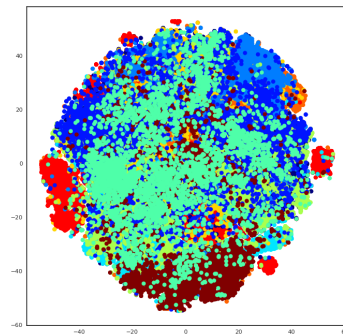
CNN_basic on MNIST, 10 Epochs Test set accuracy: 91.260 %.

2 Visualization

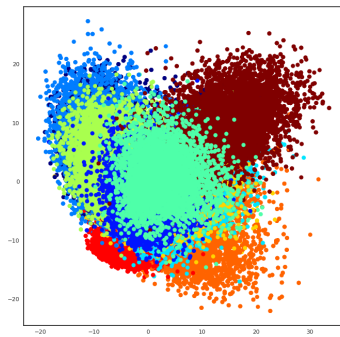
Both methods perform poorly with the untrained model. With the trained model, PCA shows some separation between the classes but is nowhere near the degree of separation that the 91% accuracy would imply. With t-SNE, on the other hand, the classes are visibly separable, with exception for a number of outliers which seem consistent with the 9% error rate.



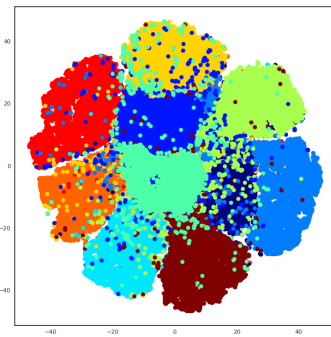
(a) PCA - untrained.



(b) t-SNE - untrained.



(c) PCA - trained.



(d) t-SNE - trained.

Figure 1: Feature visualizations.