Group 6

They implement feature extraction by scattering net with known invariants and pre-trained deep neural network VGG19 based on MNIST dataset, with visualizing these features using classical unsupervised learning method T- distributed neighbor embedding for dimension reduction.

They use the logistic regression to further classify the MNIST data. According to Table 1, the logistic regression model can reach 98.18% accuracy, which is higher than VGG19 95.67%. From the visualization of 2 dimensional manifold, it is easier to use linear decision boundary to separate the different classes.

Moreover, they train another nonlinear classifier based on the simple convolution neural network and the accuracy is more than 99%. Based on these results, it is hard to get a great performance by directly using classifier trained on another dataset and the transferability of classifier is limited.

Strength: Math equation is good.

Evaluation on quality of writing: 4.

Evaluation on presentation: 4.

Evaluation on creativity: 3.

Confidence on your assessment: 3.