

## Problem Description

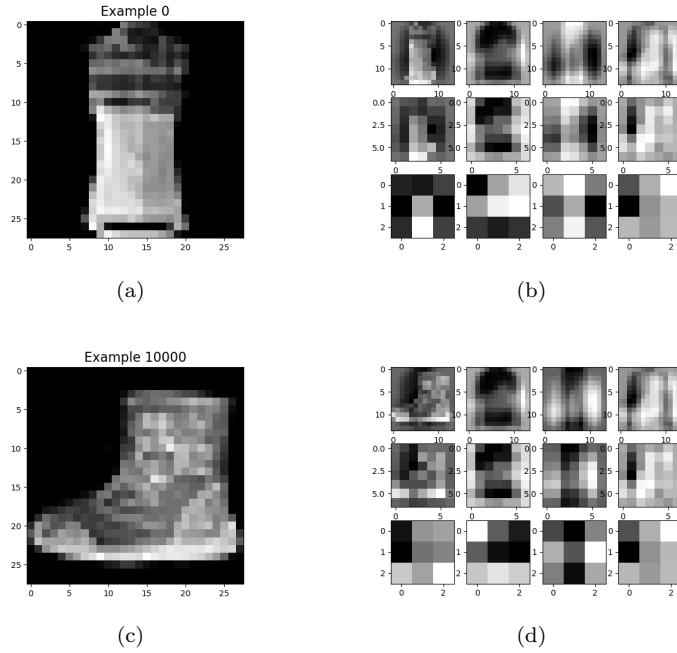


Figure 1: Full resolution images (left) and corresponding multi-resolution PCA features (right) for two training examples.

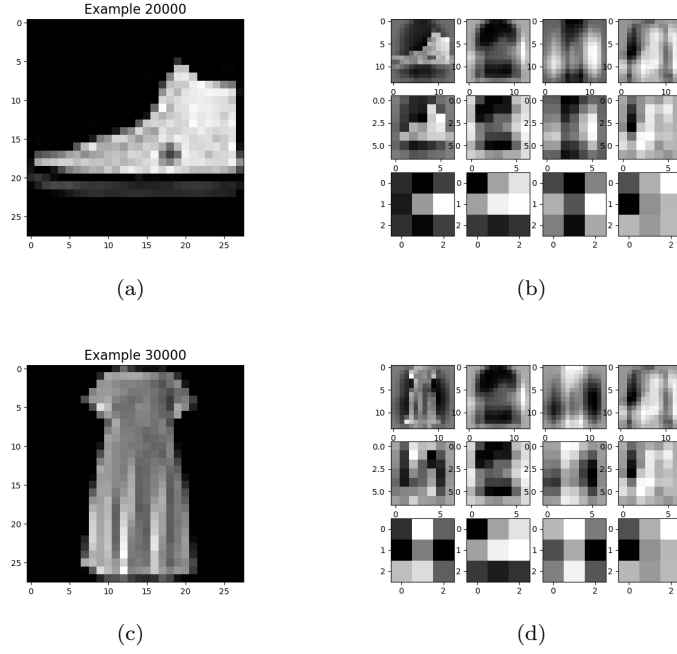


Figure 2: Full resolution images (left) and multi-resolution PCA features (right) for two training examples.

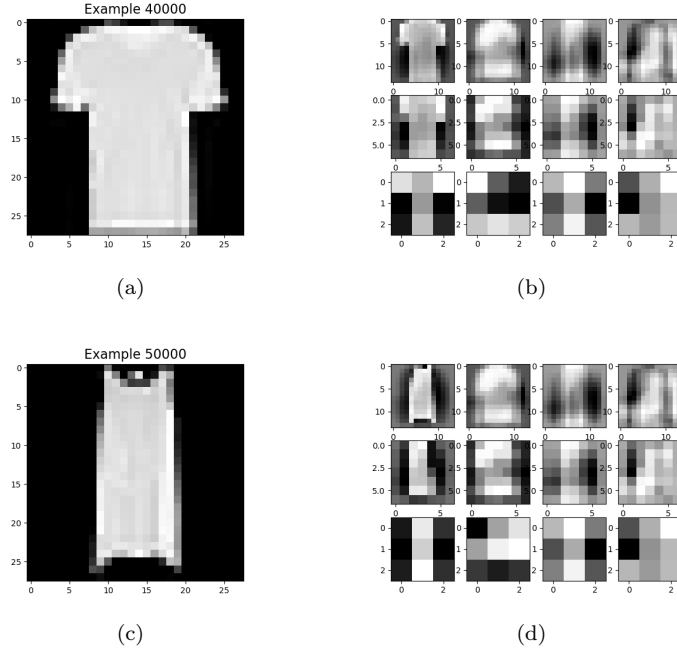
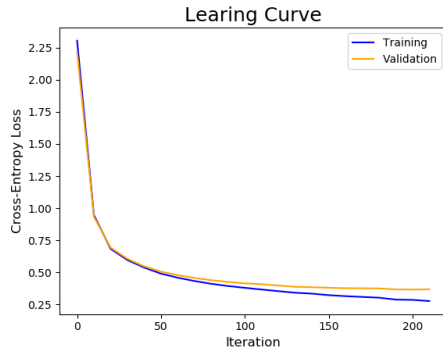
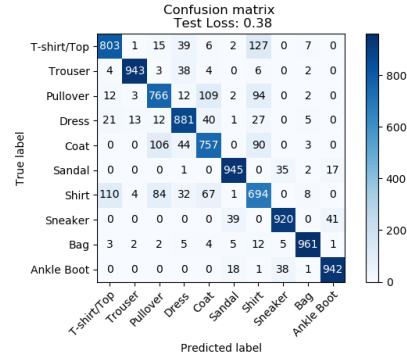


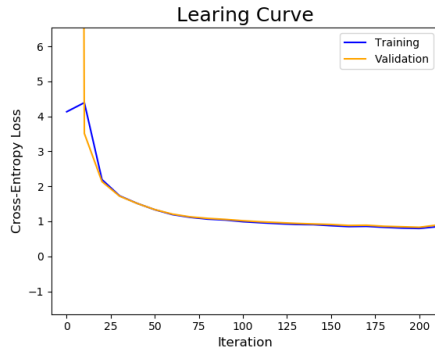
Figure 3: Full resolution images (left) and multi-resolution PCA features (right) for two training examples.



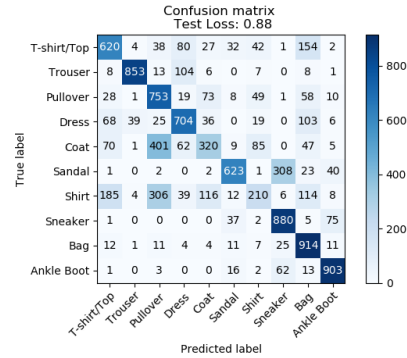
(a)



(b)

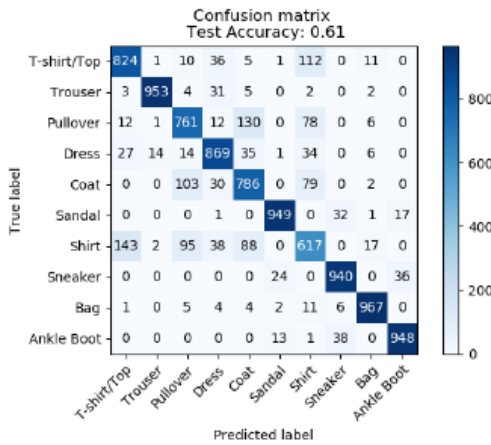


(c)

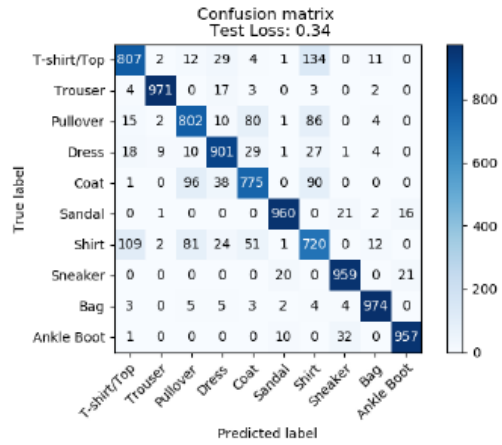


(d)

Figure 4: Top: Learning curve and confusion matrix from the network training with Multi-resolution PCA features. Bottom: Learning curve and confusion matrix from the network training with frequency-domain Multi-resolution PCA features.



(a)



(b)

Figure 5: Left: Confusion matrix for the base model trained on raw images. Right: Confusion matrix for model trained with images projected onto the first 100 principal components of the training set.