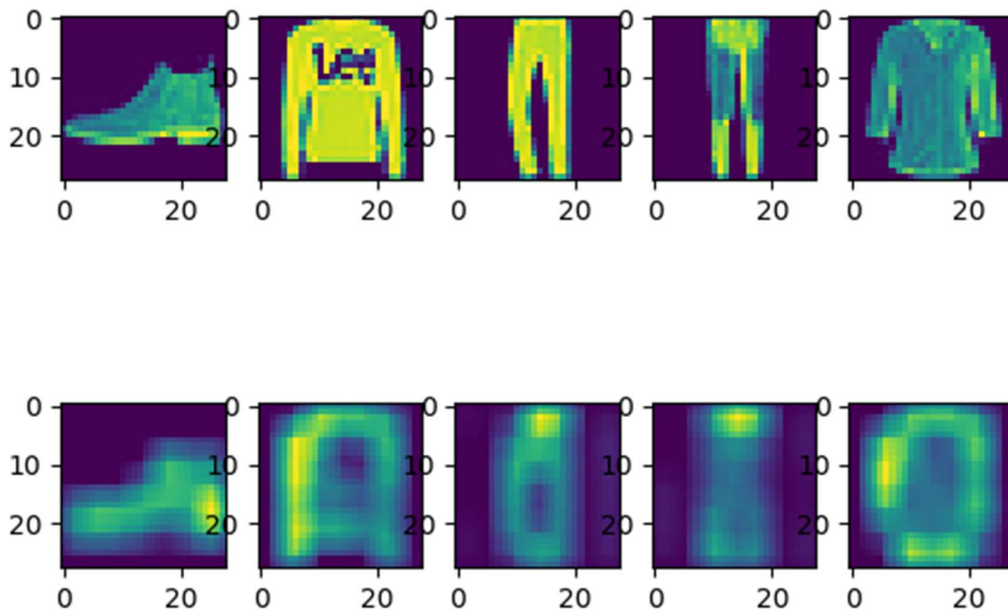


Hw2 Writeup

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1. Autoencoder

I use the Conv2D layer in Keras along with MaxPooling2D and UpSampling2D to reduce an image to a 7 by 7 tensor and then expand it to the original image size.



2. Image Classification

2.1 Deep CNN

I use 3 convolutional layers with 64 kernels each. I use kernel sizes 5 by 5, 4 by 4, and 3 by 3, for the three layers. I use stride 1 by 1 and pad the layers to each be the same size.

Accuracy on training: 0.9776

Accuracy on test: 0.9203

2.2 Transfer Learning

I use ResNet for transfer learning and train a Dense layer on top of it.

Accuracy on training: 0.8541

Accuracy on test: 0.8335

3. Text Classification

3.1 RNN

I train a character-based RNN with the GRU architecture, Embeddings, and Dropout. I use 16 dimensions for the GRU layer and 64 dimensions for the embeddings.

3.2 CNN

I train a CNN text classifier with 2 convolutional layers, an Embedding layer, and 1 hidden Dense layer. I use 64 dimensions for the Conv1D layers, 64 dimensions for the embeddings, and 10 dimensions for the hidden dense layer.

(Note: I use a larger number of epochs for training my CNN than my RNN since it trains much faster. RNN: 3 epochs, CNN 10 epochs)

3.3 ROC Curve

