Assignments due on 25/02/2020

Assignment 1

1. Complete fashion dataset classification using MNIST fashion with your own CNN network
2. Write and implement your existing loss function to include weight regularization
3. Write a function from scratch for batch normalization. Use this function to perform batch normalization of your convolution layers and fc layer by calling your own function.
4. Write a function dropout from scratch for a given probability. Use dropouts by calling your own function.
5. Report the accuracy and F1-score on the test set after performing b, c, and d. Compare your performance with earlier result.

Assignment 2

1. Take your own CNN architecture built in the 2nd assignment.
2. Discard the classification layer and add decoder layers to reconstruct the input image , i.e you are implementing AutoEncoder.
3. Use the input as the ground truth for your AutoEncoder.
4. Train your auto encoder with 80% of fashion datasets.
5. Then take 20% test set and produce reconstructed images.
6. Plot one graph for each of the test image. In the left side: draw the original input image. In the right side, draw the reconstructed image.