

HW# 10
Deep Learning (CPE 520)
Due date: November 30th , 2021

- Q.1:** Use the LeNet-5 CNN architecture shown below to classify the 10 digits in MNIST data-set.
- 1) Plot the learning curve for your training and validation dataset.
 - 2) Provide the 10x10 confusion matrices on the training and test sets.
 - 3) Remove the C5:layer , F6:layer and connect S4:f feature maps (16@5x5) directly to the 10-class Softmax then retain this new smaller architecture and plot learning curve and the confusion matrices for the training and testing sets.

<http://yann.lecun.com/exdb/mnist/>

Read the paper by Yann LeCun: Y. LeCun, L. Bottou, Y. Bengio, and P. Haffner, “Gradient-based learning applied to document recognition,” *Proceedings of the IEEE*, Nov. 1998.

