**Assignment**

**Task: To create a Vanilla CNN for MNIST Handwritten Digit Classification.**

**Dataset** : THE MNIST DATABASE of handwritten digit

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

**Data Augmentation** : Perform data augmentation to increase the dataset size. eg:

* Shift (Left, Right, Top, Down)
* Flip
* Rotate

**Network Architecture** : Vanilla CNN

* Layer 1: Convolution
* Layer 2: BatchNormalization
* Layer 3: Dense

**Hyperparameter Tuning** : Perform Hyperparameter tuning for optimal results. eg:

* No of units for each layer
* Adjust the learning rate
* Choose optimizer & loss function
* Batch size & number of epochs

**Note : You have to print the classification report for the above task.**

**Reference Links :**

[**http://yann.lecun.com/exdb/mnist/**](http://yann.lecun.com/exdb/mnist/)

[**https://nanonets.com/blog/data-augmentation-how-to-use-deep-learning-when-you-have-limited-data-part-2/**](https://nanonets.com/blog/data-augmentation-how-to-use-deep-learning-when-you-have-limited-data-part-2/)