Machine Learning Task

Convolutional Neural Network (CNN)

Handwritten Digit classification using MNIST dataset. MNIST is a dataset of 60,000 training set images of handwritten single digits between 0 and 9, each image is a 28x28 pixel square.

The task is to classify a given image of a handwritten digit into one of 10 classes representing integer values from 0 to 9, inclusively.

- Do Preprocessing step (Normalization). Rescale pixel values to the range [0-1].
  - Convert Datatype of pixels to float
  - Divide each image by 255.
- Build a 4 different architecture convolutional neural network model that can detect the digit of a given image. (change number of convolutional layer, pooling layers, ...)
- Apply cross validation during training. The training dataset is shuffled prior to being split.
- Evaluate your models using accuracy.

Important Notes:

- **Hint:- You can load dataset using Keras.**
- **The maximum number of students in a team is 2.**
- **No late submission is allowed.**
- **Cheating students will take negative grades.**
- **Deadline is on Wednesday 5/1/2022 at 11:59 PM**