CS4023D ARTIFICIAL INTELLIGENCE

Programming Assignment

TOPIC: ARTIFICIAL NEURAL NETWORK

Date of posting : 28th Oct 2021 **Submission date: 10th Nov 2021**

1. Build a Convolutional Neural Network for handwritten digit classification.
    a. Print the model summary - layers used in the model and the specifications
    b. Display the validation accuracy after each epoch

    Specifications:
    - Dataset: MNIST
    - Batch size: 32
    - Epochs: 30
    - Optimizer: Adam
    - Loss: Cross Entropy Loss
    - Activation function: tanh
2. Add pooling layers to the model, print model summary, and verify the number of parameters and accuracy of the model
3. Use ReLU instead of tanh, recalculate the accuracy, and write the observations.
4. Build a standard Artificial Neural Network (without any convolution layers) for handwritten digit classification.
    a. Print the model summary
    b. Display the validation accuracy on each epoch

Instructions for submission

1. For each question, there will be one folder containing the code and the results.
2. Zip all such folders into one zipped folder named as <Roll No>AssignmentANN.