Project 4 Numpy Written Question Writeup

Instructions

- Refer to the PROJECT4_QUESTIONSTEMPLATE for information on Q6 of the Project 4 written questions. Please submit this file to Gradescope under the Project 4 Written Code (Numpy) assignment along with your completed `model.py`
- **Please make this document anonymous.**

A6

1. What do these numbers tell us about the capacity of the network, the complexity of the two problems, the value of training, and the value of the two different classification approaches?

    - The capacity of the network: comparing the performance of NN on MNIST and SceneRec, we could see that NN is good at
    - The complexity of the two problems: MNIST is handwritten digit database covering 0 to 9, while SceneRec is 15 classes of scences. The latter is much more complicated and contains more image features than the former one.
    - The value of training:
    - The value of the two different calssification approaches:

2. How well did each model perform on each dataset? Please use this table to structure your response.

    - NN on MNIST: 89% (highest accuracy)
        - Epoch 0 loss: 169468 Accuracy: 87%
        - Epoch 9 loss: 133963 Accuracy: 88%
    - NN+SVM on MNIST: 89% (highest accuracy)
        - Epoch 0 loss: 169724 Accuracy: 89%
        - Epoch 9 loss: 131186 Accuracy: 89%
    - NN on SceneRec: 14% (highest accuracy)
        - Epoch 0 loss: 31065 Accuracy: 12%
        - Epoch 9 loss: 23660 Accuracy: 14%
    - NN+SVM on SceneRec: 23% (highest accuracy)
        - Epoch 0 loss: 30606 Accuracy: 23%
        - Epoch 9 loss: 23511 Accuracy: 21%