AML 2023

CMI

Assignment 1 (**Due Date**: Oct 15, 2022)

- The Fashion MNIST dataset consists of 28x28 grayscale images from 10 categories of images of clothes, shoes etc.
  https://www.kaggle.com/datasets/zalando-research/fashionmnist
- The Sign Language Digits dataset consists of hand signs for digits 0 to 9
  https://www.kaggle.com/datasets/datamunge/sign-language-mnist

Your task is to do the following:

- Design and Train Fully Connected neural networks to classify the above
- Design and Train Convolutional neural network for the above
- Evaluate the performance of the networks when the images are scrambled (as shown class)
- Demonstrate the FGSM attack on these networks (as shown in class)

Instructions:

- You have to submit a jupyter notebook (ipynb) with all your code and outputs of the code
- You should also submit a 1 page writeup documenting what you have done
- If you don't include the outputs you will get partial credit
- You can work in groups of 2 or 3
- Only one member of the group should submit the assignment
- Please mention the names and roll-numbers of all group members
- You are free to build upon examples shown in class
- Please confirm with the TAs that your submission has been received on time.
- No requests for re-submitting the assignment later because of various reasons will be entertained.