Deep Learning

Assignment 1

IIIT SriCity

Full marks 30, Deadline 12/03/2020, 5 PM

Instructions:

- **The deadline is strict and no further extension will be made**
- **The experiments should be carried out in own laptops**
- **The GPU server should not be used for the assignments**
- **Keep all your codes and auxiliary files in a single zip file alongwith a text/ word file showing the results.**
- **Name of the zip file should be [full roll number]_A1.zip**
- **The required dataset can be obtained from the shared Google drive**
- **The zip files should be submitted within the deadline in the same drive.**
- **All questions carry equal marks**
- **The submitted codes will be checked for plagiarism. Plagiarised codes will be rejected and given 0 marks without review.**

1. Design a Multi-layer Perceptron (MLP) for performing XOR gate operation on binary input, where weight will be learnt using Stochastic Gradient Descent (SGD). Write separate function for SGD.
2. Design a Shallow CNN model for the given dataset with the following constraints:
    a. Use maximum 3 convolution layers
    b. Use maximum 1 fully-connected layer
3. Design a LSTM model of sentiment analysis for the given dataset. Maximum 3 LSTM layers can be used.