ANN AND DEEP LEARNING (CSE636)
M.Tech. I (CSE) Semester – II 2022-23

Date: 20th Jan. 2023

LAB ASSIGNMENT-2

Instructions:

Assignment must be uploaded as following:

a. PDF containing source code must be written against each question followed by output screen shot with following naming convention: "AdmNO_Name_LabAssig_2" over Classroom.
b. Source code in Zip form same name convention used in PDF.
c. Source code must be written in python.

Dataset: https://www.kaggle.com/datasets/joshmcadams/oranges-vs-grapefruit

Questions:

1. Implement from scratch linearly separable Gates: AND & OR gate using a Single Neuron.
2. For given Dataset, perform classification using a Single layer Neural Network, show results with appropriate visualizations.
3. Design a Neural Network (using multiple layers) for Binary Classification for Dataset.
4. Comment on the performance of Single / Multiple Neural Network for the given dataset.

Reference:

i. https://www.mldawn.com/train-a-perceptron-to-learn-the-and-gate-from-scratch-in-python/
ii. https://towardsdatascience.com/creating-neural-networks-from-scratch-in-python-6f02b5dd911
iii. https://www.activestate.com/resources/quick-reads/how-to-create-a-neural-network-in-python-with-and-without-keras/
iv. https://www.kaggle.com/code/ryanholbrook/binary-classification/tutorial