GRADED ASSIGNMENT

Course : AIITP

Module Name : Deep Learning

Due Date: **20th April 2022**

INSTRUCTIONS TO STUDENT:

1. Please read the attached and complete the declaration form. The declaration form should be included as part of your submission within the zipped file.

   

   Academic_Honesty_& _Plagiarism-_SOI.pdf

   Originality of work is important. Do take note that plagiarism of work will lead to serious deduction of marks for your assignment.
2. There are 2 questions for this graded assignment. Prepare your assignment answer in a single Jupyter Notebook file for each question. Your submission would have at least two Jupyter Notebook files.
3. Include relevant comments in your notebook to make it as readable as possible.
4. Zip up your Jupyter Notebook files together and name the zipped file as "***AIITP_DL_Your Name.zip"***.
5. Submit the zipped file via Microsoft Teams to loo_sai_lam@rp.edu.sg chat directly and ensure you receive an acknowledgement.
6. Deadline for submission is **20th April 2022, 2359hrs**. Please start your written assignment early. You may submit your assignment before the deadline.
7. Please take note that late submission may be penalized according to the lateness of the submission.

Time after submission deadline	Between 0 and < 24 hours	Between 24 and <48 hours	Between 48 and <72 hours	After 72 hours
Percentage of total marks deducted by	5%	10%	15%	100%

Question 1 (20 Marks)

a) Using the Sonar dataset (Link), develop an ANN model to classify the 60 sonar readings to two classes, Rocks and Mines.

b) Grading Criteria:

   i. Data Analysis and preparation – 5 marks

   ii. Creation of ANN – 5 marks

   iii. Achieving good validation accuracy with visualization and conclusion – 10 marks

Question 2 (30 Marks)

a) The zip file, pokemon.zip, holds the training and test data for Pokémon images. Build a Convolutional Neural Network model, using Transfer Learning to classify their category.

b) Grading Criteria:

   i. Image Preparation and Handling – 5 marks

   ii. Creation of CNN using Transfer Learning and appropriate parameters – 10 marks

   iii. Fine Tuning of CNN – 5 marks

   iv. Perform testing with performance matrix – 5 marks

   v. Final evaluation and conclusion – 5 marks

END OF ASSIGNMENT