AIML Project

Project contains two parts, Part A and Part B. Perform data preparation (pre-processing) of the data such as data *addition, deletion, or transformation* as necessarily before you train the model. Please refer to detail assessment in the project rubrics at different stage.

Part A:

1. Analyse the assigned dataset "Concrete Strength Data". Develop a multi regression model based on assigned dataset to predict the strength of concrete. Demonstrate that your model can predict to some level of accuracy not less than 70%.

   You are encouraged to analyze, visualize, clean and select the feature(s) from dataset as necessary.

Demonstrate and submit the items for **Part A** as follow:

- Submit project in zip folder including ipython notebook and dataset by 12th Jan 2024 (week 13) as the Project mid-point Assessment (15%) via TPLMS.
- An interview session will be follow-up (5%).

Part B:

1. Source for relevant images to develop image recognition model using CNN to recognize a minimum of four different types of Wild Animals such as:

   a. Bear
   b. Elephant
   c. Giraffe
   d. Lion
   e. Rhino

   Train the model to obtain some level of accuracy not less than 70%. Demonstrate model training, evaluation process and application of the model using external input data such as image, text or numeric data.

   Note: You are required to gather sufficient images to train the model.

   You are encouraged to demonstrate additional features such as

   a) Demonstrate of Image Classification API Service using with trained model.
   b) Use of pre-trained model such as VGG, ResNet, Inception etc in training image recognition model.

2. Based on the Singapore Model AI Governance Framework, choose **TWO** of the following areas to describe how you can build a trusted AI system for HDB:
    a. Internal governance structures and measures
    b. Level of human involvement in AI decision making
    c. Operations management in AI
    d. Stakeholder interaction and communication.

Demonstrate and submit the items for **Part B** as follow:

- Project Interview B (5%) by 09th Feb 2024 (week 17).
- Project Final Submission (25%) by 14th Feb 2024 (week 18) via TPLMS.
    a. Final Project in zip folder including ipython notebook file, trained model in h5 file and test data (do not submit data used for training).
    b. 500-word report on item 3 in Part B

Penalty on late submission

You are expected to submit and / or demonstrate all the project submissions and assessments by the given deadlines. If you submit and / or demonstrate within the next 3 calendar days (inclusive of weekends and holidays) from the deadline, 80% of the actual mark of the work done is awarded. If you submit after 3 calendar days from the deadline, 0% or no mark is awarded.

Handling Plagiarism for Project Submission via Safe Assign

Plagiarism is the act of taking and using the whole or any part of another person's work and presenting it as your own without proper acknowledgement. Examples of 'work' include text, writings, computer program, web page, on-line discussions, video, music, sound recording, image, photograph, technical drawing, invention, research findings, diagram, chart, artwork or design. If you knowingly allow another student to use the whole or part of your work and to present it as his or her own work, you could be liable for abetting plagiarism. The penalty for abetting plagiarism includes failing the subject, suspension and removal from course.

Plagiarism is a serious academic offence. Disciplinary action taken for students caught for plagiarism will depend on the severity and includes failing the component and or subject, suspension and removal from course.

How to avoid plagiarism:

To avoid plagiarism in your assignment, project and other assessed work, you should

- Submit work for assessment comprising your own code.
- Not use any part or the whole of the work of another student or graduate who has taken the subject previously
- Not ask someone else to do your assignments, projects or other assessed work
- If you are using assistive tools like Generative AI, do not copy answers produced in totality as it is considered as plagiarism.
- Check with your lecturers, when in doubt and seek advice on the appropriate referencing format for the acknowledgement of all original sources of work used in your assignment, project or other work.

For more detailed information about plagiarism and penalties, please refer to AIML subject, Project section in TP LMS.