Dear Students

As part of your Assignment, you are required to do analysis [classification and prediction] of the Android malware dataset. The dataset is attached herewith and provided separately as well.

You can download the dataset from the following link
https://www.kaggle.com/datasets/shashwatwork/android-malware-dataset-for-machine-learning

As part of the submission, the students are expected to submit

1) Written documentation: **[6 Marks]**
    a) Containing their understanding of the dataset **[1 Marks]**
    b) The python-code and performance screenshots. You are expected to check the performance of your code snippets on at least two measures. Share the output screen shot in the documentation. **[1 Marks]**
    c) Reason for choosing the two ML algorithms for analysis. The strengths and weaknesses of the algorithms. **[2 Marks]**
    d) What is your understanding of the performance metric results? You need to choose any two metrics on which you are doing analysis and use 2 ML algorithms for this. **[2 Marks]**
2) Desktop recording, preferably with student's video. For every part above, share your answers in video.
    a) Understanding of dataset [~45-60 sec]
    b) Python code and analysis understanding. [~3-5 minutes]

Student's video is optional, however, every student needs to record individually. In order to submit the desktop recording, upload the video in OWN BITS google drive and provide view access to all BITS emails. Include the google drive link in the submitted document.
**[8 Marks]**

3) Python scripts having all the components for ML algorithms. **[4 Marks]**
    a) Importing libraries
    b) Importing the dataset
    c) Preprocessing
    d) ML algorithm
    e) Performance analysis

You are free to refer to online sources including kaggle, Github, YouTube, Google, ChatGPT etc for completing this assignment.

The students are free to work individually or in a group of 2. Any student caught sharing any-other students recording video shall be given 0 marks and matter shall be reported to the Associate Dean, WILP.

In either case, the students need to submit the project individually with individual video recording.

The documentation (excluding the google drive link) and python scripts will be the same in case of working in a group of two. Mention on the cover of the written documents the names of the group members.

The project is worth **20 Marks** and must be submitted on or before **2nd April, 2023** EOD. The students can submit the project **9th April** after which no submission will be accepted. In case the student submits between 3rd and 9th April, **-8 marks will be awarded as penalty**.

**[BONUS]**. A student doing the integration of the ML model with the front-end and preparing the complete application/ webportal shall be awarded +8 marks. The maximum total marks for assignment shall remain 20. Students can use any technique to create the front-end/web portal [Javascript, Angular JS, Flutter, React/Redox, NoCode platforms etc.]. In submission provide the hosted website link with screenshots of working. The website needs to be active till 30th April. In case of application, provide the screenshots of application, application and all necessary steps for evaluator to install and run the application.

All submissions must be made on https://elearn.bits-pilani.ac.in course portal. The elearn system date and time shall be considered for evaluation. In order to avoid network, power or personal issues, the student can consider submitting 48 hours in advance. Any technical or personal issue shall not be considered in evaluating the assignment.

Feel free to contact me in case you need clarification or assistance.

With regards
-Dr Amit Dua