CSE419 Artificial Intelligence and Machine Learning Midterm and Final Project 2020-2021 Fall

Project Description V2 : 12.12.2020

Project Delivery : End of Finals

Please read this document at least 2 times

A.) Project Details

1. First of all you will determine a project
2. As soon as you determine your project, you can start working on it
3. The project can be anything related to machine learning
4. You can use ready datasets or compose your own dataset
5. For ready datasets look below sources
    a. **https://archive.ics.uci.edu/**
    b. **https://www.kaggle.com/datasets**
    c. **https://medium.com/@ODSC/25-excellent-machine-learning-open-datasets-940ca2124dfc**
    d. **You can use other sources as well that you can find on the Internet**
6. **If you are willing to take your Graduation Project from me and also write a conference paper from your project, I accept a good project for both Machine Learning course and Graduation Project (so single project for both)**
7. You can do the project either solo or as a 2 developer team

8. If you decide to do the project with one of your friend as a 2 developers team, both of you please email me and let me know that you want to work together
9. The project has to be developed by using GitHub or BitBucket code management systems
10. You have to properly commit, push, merge, pull request, and such
11. You can find necessary related information about code management on the Internet
12. You can use GitBash or any program for code management
13. You have to make a layout and summary of your project and ask me before starting it. So I will approve your project
14. Send me your project layout and details by email : furkan.gozukara@toros.edu.tr
15. You can do the project in any programming language with using any database management system if necessary such as using C#, PHP, ASP.Net, Python, MSSQL, MySQL, SQLite, etc.
16. The key issue of the project is, you have to compose the feature set yourself
17. So the dataset you are going to use has to be raw dataset
18. You will compose features / attributes and scale them yourself
19. To display the success of your project, you have to use 10-fold cross validation
    a. **http://bilgisayarkavramlari.sadievrenseker.com/2013/03/31/k-foldcross-validation-k-katlamali-carpraz-dogrulama/**
20. You have to write a project report and explain your project
    a. How did you find your dataset
    b. How did you processed your raw data and composed attributes / features
    c. How did you scale your features / attributes
    d. How did you do 10-fold cross validation and calculated the success rate

e. Which programming language, frameworks, libraries, algorithms, methods did you use

21. In addition to the project, you will record a video which will be explained at the end of this document

B .) General Things That Deeds to be Considered

Every project will be controlled one by one. So if you cheat or bring a ready code, project, you will get FF

There will not a final exam. Your grade will be based on this Project. Thus, take this Project very seriously and start working on it immediately. Look the internet for the parts that you do not know

Write your code with as many as possible explanations. What does do that code block? Of course, put those explanations into your code with comment blocks such as // or /* */ in C#

Create an account on https://stackoverflow.com/ and ask there, or look for answers there.

My email: furkan.gozukara@toros.edu.tr

Also use discord channel for communication

Latest Project delivery date: End of finals but you can also deliver at the butunleme exams

1. **Lastly everyone will record a very detailed video to explain the project.**
2. **Video will be recorded with OBS studio in 1080p (high quality so that I can read explained code easily) resolution.**

3. **It is mandatory to use microphone when recording and explaining the project verbally by speaking.**
4. **Turkish students can record the video in Turkish.**
5. **The project has to be made in English.**
6. **Non-Turkish students can also record their video in Turkish if their Turkish is better than their English. However, they should use English if their English is better than their Turkish.**
7. **When explaining your Project you need to explain every piece of your written code.**
8. **What does that particular code piece or that particular class or that particular method, etc. and how did you write it.**
9. **Moreover, you have to explain and show every feature of your application. So run your application and do example of every feature that your application have. Let's say you have applied SVM on text classification. Run your application and show how you compose model on which data. Then provide an unseen test data to your model and show its prediction is correct or not.**
10. **Then after you have to upload your video to the YouTube and set visibility as public or unlisted.**
11. **Because it has to be accessible.**
12. **Furthermore add your YouTube video link to the project folder as text.**
13. **Finally ZIP or RAR your entire Project and upload to your Google drive. After you get your Google drive upload link send me that link as email : furkan.gozukara@toros.edu.tr**

14. **When sharing your Google drive upload link as email, make sure that your upload's visibility is set correctly. Set it as who has link can view or download so that I can download it.**

15. **Everyone will be sending a Word or PDF document along with their final project files. This document will contain screenshots of your all comments to the lecture videos (all of the 14 lecture videos or more if we make). Take screenshots with high resolution. Your comment has to be clearly readable. Those who fails to send this document will be counted as not attended to the lectures. Therefore they will get FF.**