CSC399 Selected Topics in CS
Team Project Requirements document
Deadline: Saturday January 8th, 2022

Project Description

The main objective of the project is to synthesis and evaluate what you learned in the course. Propose various machine learning/deep learning models (**at least 5 classifiers including a deep learning model**) to be applied on your chosen dataset[1]. Assess their performances in terms of **key metrics**[2]. Provide a comparison among the different models with merits and demerits of each ***justifying the outstanding success or the failure in classification***.

Each group of students should satisfy the following requirements

1. Find a dataset to work on according to the criteria below.
2. Provide a visualization to the dataset with different perspectives.
3. determine the need for data preprocessing.
4. Apply the classifier to the dataset.
5. Provide a visualization to the experimental results.
6. Provide a workload report[3].
7. A private discussion supported with a team presentation.

Deliverables

1. A link to the chosen dataset and your project GitHub repository.
2. A python implementation of the project.
3. A documentation on the project[4].
4. A power point presentation showing the dataset as well as the performance of the classifiers.

1 Datasets should be a benchmark dataset published in reputable conference/journal. Datasets can be text, numbers, images, audio, video, or collection. Various types of datasets can be found on Kaggle, Mendeley, UCI repository, etc. Working on your graduation project dataset is allowed unless it does not satisfy the criteria. Each group should work on a unique dataset.
2 Key metrics are accuracy, precision, recall and f1-score, all can be obtained for the confusion matrix.
3 Attached below the template of the workload sheet.
4 Attached below the template of the project documentation.

Workload Management Template

Project Title

Assignee	Student Name 1	Student Name 2	Student Name 3	Student Name 4	Student Name 5
Task title	Implementing KNN	Implementing MLP	Implementing Naïve Bayes	Implementing SVM	Implementing SOMs
Task Effort	1 week	…	…	…	…
Task Status	Finished 20/12/2021	…	…	…	…
per week time	3 hrs	…	…	…	…
Task title	Data Visualization	Data Preprocessing	Report Writing	Report Writing	Presentation Preparation
Task Effort					
Task Status					
per week time					

Title of the Report

Student Name1, Student Name 2, Student Name3, ...

Abstract:
gives a brief paragraph on the main target of the project, and the achievement of the project

1 Introduction

In this section should, you give a deeper introduction to the project data, what is the main problem? What methods you will use to solve the problem and finally hint about the achievement.

2 Dataset

this section describes your data in details and any preprocessing needed.

3 Experimental Results

this section describes the results of the classifiers and the comparison of their performance. It is recommended to plot the performance, and to use figures/tables during the description of the results.

References

cite any references to any resources that you are using in the report