Term Project Report Guide

ACS577 Knowledge Discovery and Data Mining, Summer 2023

Final report due: August 4 (Friday)

Submission: Prepare a single file named with **last_name(s)_ACS577_Project.zip** for the followings:

1) **Final report file**
   - You may use the provided templated file for the final report.
   - There is no page limit, but the items recommended for the term project report are expected in your final report.
2) **Raw data** (/sample raw data) **or raw data source**
3) **Preprocessed data** (/sample processed data)
4) **Programs (/ program codes)** you developed/used for your project, if any.

Submit the final report package to the final report link in Brightspace.

The following shows a sample template for application-track project.

Sample Template for application-track project final report

Title

The title should correctly and concisely reflect your work problem.

Author(s)

Info (name, email, school)

Abstract

A short description to attract your work. It can be a summary of introduction and conclusion.

1. Introduction

- A project problem description
- Motivation of the work
- Applications (application domains) of the work
- Project goal
- Challenges to accomplish the work
- Contributions of your work to Computer Science domain and/or Application domains, if any
- A short description of your data
- A short description of your approach
- A short description of your findings (results)

2. Problem Statement (/Definition)

In this section, you can clearly describe the goal of your work, and the objectivities. If you can give a formal definition of your problem, it is good to include it here.
If you have several tasks to meet the overall goal, give the description of each task clearly.

For example,

Given
- Input1
- Input2, …

Goal (/ Output)
-

Constraints (if any)
-

Assumption (if any)
-

Scope (if any)
-

3. Related Work

Description of the works related to your problem in literature, if any. The related works can be organized to subsections according to its category.

4. Background Concepts(/Knowledge or Preliminary)

Optionally, you can provide some background concepts in this section for readers.

The following order of sections can be changed depending on the work.

5. Data

5.1 Data

- The description of **data collection and data source, or data generation**.
- The detail description of data such as **data size** (# of rows) and **attributes**.
- If any, the **characteristics of the data**
- It will be good to show a least 5 samples (records) for the data description.

5.2 Data exploration

- If any, data exploration mythologies you applied to the dataset to understand overall characteristics of row data (or preprocessed data).
- The result description or/and data visualization using various plots. DO NOT include program codes here.

6 Data preprocess

- If any, the description of your data processing for missing values, data scale, discretization, etc., and/or your data integration
- The result. e.g.,
  - The characteristics of data after preprocess
  - Any plots or figure. DO NOT include program codes here.
  - Some preprocessd samples to understand the preprocess data.

7 Methodology (/ Approaches / Proposed Methods)

- Description of each data mining task you applied to the data.
- Description of data mining techniques for each task.
- It is fine to include algorithm pseudo code here. DO NOT INCLUDE any program codes here.

8 Experiment (/ Case Study)

8.1 Experiment Goals (/Experimental Tasks)

8.2 Evaluation Metrics

8.3 Experiment Settings

- Description of such as (open source) programs, data mining tool, operating system, computer system
- Any special preparation of data for experiments, if any
- Values of parameters used in data mining algorithms if any

8.4 Results

For example, generated rules or clusters can be listed here.

You can include tables and figures here. DO NOT INCLUDE any program codes or screen shots .

9 Discussion

If the above result section simply reports the output from data mining, you can further discuss your results and limitations.

10 Conclusion and future works

- A short summary of your work
- A limitation of your work
- Future works

References

Appendix (Optional)

Other results not included in Section 9 and simple program scripts and can be located here.