

CSC 180 Intelligent Systems (Fall 2022)

Format Requirements for Final Project Report

How to write an academic paper for publication?

Your report will be graded based on novelty, clarity, and the significance of the results as though it is being refereed for publication at a conference. You are encouraged to look at papers published at the major international conferences on data science (e.g., KDD, ICDE, ICDM, ICML, AAAI, SIGSPATIAL) as a model for your paper.

1. Formatting

Go to Canvas and download the provided ACM conference paper template. Use the template to formatting everything.

2. Length

Your paper should be at least three full page long (with all visuals and references).

3. A Suggested Outline:

Abstract. One paragraph that contains the following:

- **Motivation (1-2 sentences):** *Why the problem matters?*
- **Problem statement (1-2 sentences):** *What problem are you trying to solve?*
- **Approach:** *How did you solve the problem?*
- **Results:** *How did your solution(s) outperform the baseline approach?*

1. Introduction

- Briefly describe the problem you are addressing. *What is the problem? Why is it important?*
- Provide an overview of your approach. *What is your approach?*
- List your contributions. A bulleted list is fine.

- Show the organization of the rest of the paper.

2. Problem Formulation

Precisely define the problem you are addressing (i.e. formally specify the inputs and outputs).

3. System/Algorithm Design

3.1 System Architecture.

Provide reader a high-level idea about your whole design/system. *How all modules in your design interact with each other?*

3.2 Module 1

3.2.1 Algorithm Description (Algorithm A for Module 1)

Describe the algorithm. A pseudocode description might be helpful. Trace through a concrete example, showing how your algorithm processes this example. An intuitively meaningful example is much better than one with only meaningless symbols. People love visuals! Use figures if possible.

3.2.2 Algorithm Description (Algorithm B for Module 1)

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3.3 Module 2

3.3.1 Algorithm Description (Algorithm A for Module 2)

...

3.3.2 Algorithm Description (Algorithm B for Module 2)

....

4. Experimental Evaluation

4.1 Methodology

- *What was data used? How you split data to training and testing?*

- *What was the experimental setting?*
- *What metrics were used to compare different methods?*
- *What methods were implemented and compared?* Make sure you include the competing methods that address the same problem as comparison baseline.

4.2 Results

Present the quantitative results of your experiments. Figures such as charts or histograms are frequently better than tables. For each figure, explain the result. *What conclude we can draw from each figure?*

5. Related Work

Answer the following questions for each related work that addresses the same or a similar problem.

- *What is their problem and method?*
- *How is your problem and method different?*
- *Why is your problem and method better?*

How to cite papers?

List your references sequentially in the References section. Citation of the source in the text should use the source number in a pair of brackets, such as [3]. Cite the full info about the paper:

- Author names
- Paper title
- Publication details
- Page numbers
- Year, etc

This is an example:

[1] Adomavicius G, Tuzhilin A., "Toward the Next Generation of Recommender Systems: A Survey of the State-of-the-Art and Possible Extensions", IEEE Transactions on Knowledge and Data Engineering, Vol. 17, No. 6. (June 2005), pp. 734-749.

In the text, use "[1]" to refer.

6. Conclusion

Briefly summarize the results and conclusions.

7. Work Division (Make sure you have this in your report)

A paragraph stating how the work is divided over all team members in your project.

8. Learning Experience (Make sure you have this in your report)

One or two paragraphs stating what you (and your partners) have learn from this project.
