CE880: Case Study Preparation Guidelines

October 16, 2023

1 The Assignment

The aim of this coursework is to assist you in honing your attention toward the aims and objectives of your broader project, fostering a deeper comprehension of the data science framework. Your ultimate grade will be divided evenly between the project's tangible code and the accompanying report or paper. All code should be hosted on GitHub. The report is expected to adhere to the IEEE format, exhibit a proficient level of English, and encompass the specified sections outlined below:

1. **Abstract**: Provide a short description of your work to convince the reader that your paper is worth reading! Make sure the title of your paper is also descriptive of your work. Do not use "Project 1/2/3" as your title! A good abstract should include a statement of problem significance, a summary of the methods and results, and a short conclusion. Check a few examples of IEEE Transactions papers to write your abstract. The abstract should not be longer than 250 words.

2. **Introduction**: Explain the purpose of your work and what motivates it – why and what you are doing? This section should include references to show that what you're doing is important and relevant. Help the reader understand why your research is important and what it is contributing to the field: 1) Start by giving the reader a brief overview of the current state of research in your subject area. 2) Progress to more detailed information on the specific topic of your research. 3) End with a description of the exact question or hypothesis that your paper will address. Also state your motivation for doing your research and what it will contribute to the field.

3. **Literature review/Backgroud**: Describe similar efforts done in the past. Discuss any previous work on the topics and go beyond the provided references in the project description. For example, if your project is about classification on data numerical dataset, you should talk about frameworks used to do this, and how they build on each other, or different approaches to this problem.

4. **Methodology**: Describe the dataset/s assgined to you, including how the data was collected (or generated). If you have a research question, make sure you state it here and your methodology is appropriate to answer the question. How will you answer the question? Give details of train/validation/test splits, preprocessing, classifiers/regressors/modelling tools, evaluation methods and metrics... You can add figures showing exploratory data analysis. This section is the main section of your work.

5. **Results**: If you have done some experimentation, describe it here and mention the results you obtained, perhaps further justifying your methodology choices above. If you're following someone else's methodology, describe it (and cite it) in the Methodology section, but mention here their results and how yours compare.

6. **Discussion**: Describe the main insights from your exploration and what you expect to achieve from the methodology described.

7. **Conclusions**: Any concluding remarks you might have. This can be merged with the Discussion section.

The report will be a minimum 4- and maximum 5-pages report in IEEE journal article format (use the provided template). References should be included on the last page.

2 Your FASER submission

You need to submit two files to FASER:

1. A report in PDF format, adhering to the IEEE Journal standard.
2. A txt file with a link to a GitHub project folder, where code is given. Make sure your 'README.md' describes how to use the code.

   *Note: Please don't zip/compress the above files and they should be uploaded separately. If you will upload the zipped version, we will not consider the submission and it will not be marked and considered as an academic offence.

3 Help

1. Please use Overleaf to prepare the report.
2. Use the IEEE template on overleaf.
3. The guideline and policies for IEEE can be found here and please follow the structure click me.
4. I would recommend taking a Writing in Science free course and paying attention to the papers you read to see how they're structured and written

Feedback

Here the the mark distribution for your case study.

	Attribute	Mark	Weight	Weighted range	Weighted mark
FASER submission (2%)	PDF file with the report	0	0.5	(0-50)	0
	Link to github. Note: if no link is provided in a txt file, the code won't be marked	0	0.5	(0-50)	0
				TOTAL	0

	Attribute	Mark	Weight	Weighted range	Weighted mark
Report (78%)	Adhering to journal standards: Did they use the template provided? Is the quality of the figures good? Is the quality of the English good?	0	0.02	(0-2)	0
	Title and abstract: do they capture the essence of the paper?	0	0.05	(0-5)	0
	Introduction and background: is the project motivated adequately? Is the background reading extensive? Are the references used appropriate?	0	0.13	(0-13)	0
	Methodology: What methods were used in the project? Are they adequately described? Are they appropriate?	0	0.16	(0-16)	0
	Results: Are they coherent? Was the methodology followed? Are they well-structured and presented?	0	0.17	(0-17)	0
	Discussion/Conclusion: are there final remarks and lessons learned? Is there a good discussion on the results? Is there a mention of the limitations? Are there suggestions for future work?	0	0.17	(0-17)	0
	How much depth was achieved in the project? Has the project question been sufficiently answered?	0	0.3	(0-30)	0
				TOTAL	0

	Attribute	Mark	Weight	Weighted range	Weighted mark
Code (20%)	How well organised, documented and coherent is the code base?	0	0.8	(0-80)	0
	Any quality control present (e.g., unit tests)? Are there instructions on how to run the code? And examples?	0	0.2	(0-20)	0
				TOTAL	0