CE888 Assignment 1

January 22, 2021

Deadline for Submission: 25^{th} February 2021, 11:59am

1 The Assignment

The main aim of this assignment is for you to think about which approach you will follow to complete the full brief of the project you have been assigned. To do this, you will need to analyse data and present your analysis both through code and in a form that is appropriate for publication in an academic journal.

We do not expect you to finish your full project by Assignment 1. In this assignment, instead, we expect you to have:

1. Loaded and explored your data, performing preprocessing if needed.
2. Considered your data and the project description to come up with a plan to complete the project.

Your report and code should provide evidence of the two points above.
The report should be written using an adequate level of English and have the following sections:

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 motivates it – why is what you are doing important? This section should included references to show that what you're doing is important and relevant.
3. **Literature review**: 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 using images, 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 you are going to use, 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.
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.
8. **Plan**: Provide a breakdown of the work needed to complete the project and how long it will take. Use dates or a Gantt chart. Be realistic about what you can achieve. Make sure that your plan is reflective of the report: every task should be mapped to some aspect of the methodology or evaluation.

The first report will be a 3-page report in IEEE journal article format (use the provided template) + 1 page for the plan. References should be included in the 3 pages.

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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 that contains the code and the data you are going to use. Make sure your README.md describes how to use the code, and provide links to download the datasets if they are too large to upload to GitHub.

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.
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