

Requirements for the Final Report

Instructions:

1) Submission:

Two items:

- Upload your Final Report: **Submission by Canvas**
- Code and instructions to run and test: **Email to me (ksripon@hiof.no)**

2) Deadline (**both Final Report and Code**) : May 5, 2023, until 17:00 (Norwegian Time)

3) Your submission will be atomically checked for plagiarism. In case of any plagiarism, it will be handled by Østfold University College's policy. You can find more about it at <https://www.hiof.no/english/studies/examinations/cheating-and-plagiarism/>

Requirements:

- 1) Your final report must have a word count between 5500 and 7500 words, excluding references.
- 2) You do not need to include your code within the report itself. Instead, send your code and instructions on how to run and test by email to me.
- 3) The report should be written at an “**Advanced**” level, providing enough detail for someone with a good ML background but who may not be familiar with the chosen technique and application. After reading your report, the reader should be able to become an expert on your chosen algorithm and technique; and successfully replicate your work. The report should provide sufficient information on the advantages, disadvantages, implementation, analysis, and application of the technique.
- 4) In summary, the report should cover all the points outlined below.

Point-1:

The report should present a detailed analysis of your selected machine learning technique/algorithm, aiming to achieve a comprehensive understanding. The following points should be covered (at a minimum):

- 1) Introduce the technique/algorithm you have chosen.
- 2) Describe why the technique/algorithm is unique or noteworthy.
- 3) Compare and contrast it with other similar techniques/algorithms, using practical examples where possible.
- 4) Discuss the working principle of the technique/algorithm, including its working flow, equations, and analysis.
- 5) Evaluate its advantages and disadvantages.
- 6) Explore its various applications, providing a justification for why your chosen technique/algorithm is more suitable for this particular type of application(s) than other similar existing machine learning techniques/algorithms.

Point-2:

The report must contain adequate information about your chosen application, covering the following points at minimum:

- 1) Provide a detailed description of your chosen application.
- 2) Identify the challenges associated with the application.
- 3) Justify why your selected technique/algorithm is appropriate for handling the application.
- 4) Explore other potential techniques/algorithms that can be used to handle the application.
- 5) Explain why you believe that the technique/algorithm you have selected is superior to other alternatives for addressing the application.

Point-3:

This point pertains to the approved articles (minimum of four), with the following minimum points to be addressed:

- 1) Enumerate the articles and provide a rationale for selecting them. The justification can be based on either the selected technique/algorithm or the selected application.
- 2) For each article:
 - a) State the objectives of the article.
 - b) Explain its working principle or methodology.
 - c) Describe the results or achievements obtained.
 - d) List the advantages and disadvantages.

Point-4:

Your report's final section should include a detailed explanation of your implementation process, as well as an advanced level comparison and analysis of the results you achieved. The following items should be included at a minimum:

- 1) Describing your implementation in detail so that others can replicate your work.
- 2) Mention, analyze and describe your results. This includes:
 - a) Providing justifications for why you obtained such results, whether they were positive or negative.
 - b) Comparing your results to other results achieved using similar techniques or algorithms on the same application.
 - i) If the results you use for comparison were not obtained from the same articles you chose, you should provide proper references to the source articles from which you obtained the comparison results.
 - ii) It's important to note that if you are implementing your chosen technique on a new practical application, we can individually discuss the type of comparison and analysis that you should include in your final report.
- 3) When describing the required analysis/comparison, it's essential to aim for an **"Advanced"** level. This means that simply comparing achieved results is not enough; you must justify why your results are better or worse than the comparison results. If your achieved results are worse than the comparing results, you must also include your thoughts on how to improve them.