Final review for IE 506 Course Project (**Please read carefully !**)
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The final review for IE 506 course project will be done in two phases. The first phase will involve submission of a report, slides, videos of code walkthrough and demo (details below). The second phase will include an in-person presentation. Please follow the Instructions below for the final review of IE 506 course project.

Phase-1 (Submission of all the components for final review):

Deadline: 1st May 2025, 11:59 PM IST.

The presentation slides and videos created must be stored in a folder named **YourTeamName_IE506_CourseProject_FinalReview** in Google Drive (please access Google Drive using your IITB email ID and SSO). Then the folder should be shared and the link needs to be provided to the Instructor and TAs.

PLEASE NOTE: MAKE YOUR FOLDER ACCESSIBLE FOR ANYONE WITH THE LINK.

If the TAs are unable to access the shared folder, your submissions will not be considered for evaluations.

The Google form for getting submission links will be shared before the deadline.

The main submissions required for phase 1 of the final review are:

1. Project Report (**only PDF** format allowed)
2. Project Presentations slides (Allowed formats: pdf, ppt, pptx, google slides).
3. Video of Code Walkthrough (can **only** be any of the following formats: .mp4, .wmv, .mkv, .avi, .mov)
4. Video of the Demonstration of the experiments (can **only** be any of the following formats: .mp4, .wmv, .mkv, .avi, .mov)

Instructions for Report, Code- Walkthrough and Demo video are given below. **Please make sure that your submissions comply with the Instructions.**

1. Instructions for Project Report

A LaTeX template for the report is available at the given ***link***. Please use only the provided template for preparing your report. **Other formats/templates will incur heavy penalties (e.g. zero score for the report).**
The following are generic guidelines useful for writing the report, but you are free to make your report perfect by suitable amendments.

The report must contain the following sections:

1. A **"Problem Statement"** section containing a short description of the problem under consideration.
2. A **"Work Done Before Stage-1 Review"** section, which details all methods and approaches tried during the project till the stage-1 presentation. Include all essential details that explain the work done till the stage-1 review. Also include a summary of the work done in stage-1.
3. A **"Comments/Inputs given during the Stage-1 Review"** section describing the comments/inputs given by the instructor and TAs for the final review expectations.
4. A **"Addressing Comments after Stage-1 Review"** section, which details how the stage-1 review comments were addressed.
5. An **"Experiments and Replications of Algorithms in Paper"** section where all experimental settings, dataset details and experimental results are discussed with a proper summary. Include quantitative results in the form of tables and plots where necessary. Also include qualitative results wherever applicable.
6. A section on **"Novel Settings and Experiments" must be included.** Each team is expected to try novel ideas over and beyond the paper allotted. Some pointers would have been given to the teams during Stage-1 reviews or during further discussions. The team should discuss how they went ahead with such ideas. Report must include elaborate details on all novel aspects tried by the team. Details about the methods/algorithms tried, the machine learning framework and its components, the importance of each component of the novel model/algorithms, experimental setup, dataset details, and experimental results and comparison, and other relevant details should be explained for the novel ideas tried by the team. Include figures, tables, plots and other illustrations as necessary.
7. A final **"Conclusion"** section summarizes the project, the methods used, and the significance of the results obtained. Highlight the results of exploration of novel ideas that you tried for the project.
8. A **"Contributions"** section with bullet points on individual contributions of the teammates towards the project.

9. A **"References"** section where you cite all relevant papers and websites in your report. **References should be in proper format as specified below.**
    a. For including the references about a research paper, the reference should be of the following format:

<< authorname_1, authorname_2, … and authorname_n >>. <<Paper_title>>, <<Journal or conference name>>, <<year>>. <<paper_url>>

E.g. Steven Raskinov, Bob Dietterich and Rita Barnard. SVMs for Multi-label anomaly detection, Journal of Machine Learning, 2013. https://arxiv.org/1303.1231223

    b. For including references to the website, the reference should be of the following format:

<<authorname_1, authorname_2, …, and authorname_n>>. <<url for website>>, <<access_time>>.

E.g. Chris Bisred. https://blog.com/samplewebsite. Accessed on: 7th March, 2024.

IMPORTANT: A report which is simply a copy-paste of the content from multiple papers will be awarded zero score. You are advised to use your own language to state the facts in the referred resources and papers. AI tools can be used only for polishing the language. Reports containing simple summaries of papers obtained from AI tools, without details of the work done by the team will be graded with low scores.

2. Instructions for Presentation Slides

1. The presentation can have max 25 slides, including references. Google slides is the most preferred way of preparing the slides. (powerpoint (or equivalent software based) and pdf are allowed but considered to be less preferable).
2. The presentation must be titled with the appropriate paper which is allotted to the team and it must be indicated in the title that this work is done as part of IE 506 course project. The name of the team and Roll number of all team members should also be provided in the first slide.
3. The presentation must contain an Outline slide where a broad overview of the contents of the presentation needs to be provided.
4. A short description of the problem statement and crisp details of algorithm/approach proposed in the paper (2 to 3 slides)
5. Summary of work done before the stage-1 project review (max 3 slides)
6. Major comments given during the stage-1 project review (1 slide)

7. How the team has addressed the comments given during the stage-1 project review (1 slide)
8. Description of work done after the stage-1 project review (max 5 or 6 slides)
9. If a new idea has been tried, highlight the idea and show a summary of comparison against at least one existing method (max 3 slides)
10. If no new idea has been tried, a summary of all the experiments replicated based on an existing work should be presented (max 2 slides)
11. The contributions of each team member towards the project should be listed carefully when discussing the work done by the team. (1 slide)
12. Conclusions (1 slide)
13. Possible future directions (1 slide)
14. References (papers, websites, code repositories, etc.) consulted for the project (1 to 3 slides).
15. The presentation should contain a list of references (papers, websites, code repositories, etc.) consulted for the project. References should contain details of author names, name of paper or link to website, venue where the paper was published or the code is available and year of publication or code release. References for code links and websites should list the authors who wrote the codes or webpages, the year when the code or webpage was published, and the time you accessed the code link or webpage.
16. **References should be in proper format as specified below.**

    For including the references about a research paper, the reference should be of the following format:

    << authorname_1, authorname_2, … and authorname_n >>. <<Paper_title>>, <<Journal or conference name>>, <<year>>. <<paper_url>>

E.g. Steven Raskinov, Bob Dietterich and Rita Barnard. SVMs for Multi-label anomaly detection, Journal of Machine Learning, 2013. https://arxiv.org/1303.1231223

For including references to the website, the reference should be of the following format:

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E.g. Chris Bisred. https://blog.com/samplewebsite. Accessed on: 7th March, 2024.

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3. Instructions for Video of Code Walkthrough

The team must prepare a video recording of the code walkthrough of the code written after the stage-1 review. Some guidelines for preparing a video of a code walkthrough are given below:

1. All team members must participate in the recording
2. The code walkthrough video can be for a maximum of 10 minutes.
3. The code walkthrough must introduce the major code components and modules related to data preprocessing, training/test/validation data splits, ML method implementation, training/inference method details, evaluation metrics, etc.
4. The details of implementation/formulation of ML solution methodologies (e.g. optimization methods, sampling methods, probabilistic methods) need to be described in the walkthrough along with details of tunable hyperparameters.
5. All other related details of the code crucial to the methodology should be described.
6. The contribution of each team member must be clearly described in the video.

For recording the code walkthrough, the teams can use appropriate screen recording software (e.g. OBS/MS Teams,etc.). There will be a penalty if the code walkthrough video is not submitted.

4. Instructions for Video of Demo

The team must prepare an 8 to 10-minute video recording of the demonstration. All team members must participate in the recording. The contribution of each team member must be clearly described in the video. The demonstration should highlight the aspects that have been implemented after the stage-1 review. You can decide on the type of demo and the way of the demo presentation. Make your demo amenable to being tested in real-time.

Platforms for recording videos

For recording the presentation, the teams can use appropriate software. We have given information about some of such options.

1. One possibility is to use Open Broadcaster Software (OBS). Please use https://obsproject.com/wiki/install-instructions to install OBS. Then you can use OBS and your presentation slides to create a recording (you can watch e.g. https://www.youtube.com/watch?v=9AKhr8wrXvY on how to prepare a recording of your presentation). Using a face cam during the presentation is preferable.
2. MS Teams teams too can be used to get videos by starting a meeting and recording it.
3. Google chrome can also be used to record video just by adding an extension called “screen recorder” to the browser.

Please make sure that your videos of code walkthrough and code demonstration are lively and not boring. Teams with no videos of code walkthrough and demo will receive heavy penalties.

Phase-2 (In-person final presentation):

Dates: 2nd May to 6th May 2025.

Please note the following guidelines regarding the in-person final presentation.

1. Please follow the guidelines provided in the description of phase 1 for preparing your presentation slides.
2. All team members should be present for the final presentation. Please note that being absent for the final presentation will imply a **Fail grade** for the course. The contribution of each team member must be clearly described. **NOTE: Grading will be done individually (even for a 2-member team). Hence, the responsibilities of each team member must be described clearly in case of a 2-member team.**
3. **Please bring your laptop for the presentation. We won’t be able to provide laptops at the venue.**
4. The amount of work done as part of the course project will definitely be taken into consideration. Projects with easy-to-implement ideas will receive a relatively low score. Projects with no reasonable outputs and erroneous or incomplete implementations will receive very low absolute scores; hence, ensure you have a completely working code. Teams where one or both team members do not show much enthusiasm towards the project (this can be gauged by the way of execution of the project, the overall contribution of each team member, the

enthusiasm shown in the presentation, etc.) will also be graded lower than other teams.

5. Please note that a student who gets very low scores in **stage-1 review and final review** has a very high chance (99.9999%) of failing the course.

6. Finally, please make sure that yours is a well-executed project and is excellently presented.

7. DEMO DURING PRESENTATION: Additionally, ensure you have a **Test interface** prepared so the trained ML model can be actively demonstrated during the live demo by passing some test data.

8. The duration of the presentation will be **15 minutes,** and there will be a Q&A Session for **5 minutes**.

9. **Dates for Presentation:** The Schedule of final review presentations will be provided soon. Make sure to arrive at least 5 to 10 minutes before your presentation slot.

10. Each instruction has points assigned to it, like (a)following slide preparation instructions, (b)team member participation (individual), (c)understanding, (d)report preparation, (e)video preparation, (f)code walkthrough, and (g)code demo. Make sure to read and follow each instruction carefully to get a good overall grade.