Movie Detection Analysis - Machine Learning Model and Presentation

DS 4002 - Fall 2024 - Professor Gates
Due: At the end of the project cycle
Submission format: PDF

General Description: Submit to canvas a pdf version of the PowerPoint presentation as well as a github repository with your models. Upload this presentation to the highest level of the Github repository as well.

Why am I doing this?

When you create something new you are the only one who knows how and why it works. The goal of your presentation is to spread the word. Given the brief nature of this work we are focusing on getting people motivated/hooked, and quickly explaining why this is a step forward. You will undertake this exercise as the first part of practicing the sharing of knowledge. Without this step all the work you have done is for nothing.

What am I going to do?

You will produce a set of slides for the presentation (see PR1). The presentation need not be long, we are aiming for 7 minutes, which means about seven slides. It makes it harder to be brief, there is a famous quip that is along the lines of “If I had more time, I would have written you a shorter letter”. It does need to cover all the essential pieces, from motivation and context, to describing your data, through analysis, and on to the next steps. The key is to think carefully about the important pieces for the audience and then present those in a coherent way. Making the supporting visual materials is a critical step.

Tips for success:
● Read the sections of the github carefully and executes based on section
● Use the “so-what” format, each slide should have a clear take-away message.
● As a rule of thumb, never use a font smaller than 18pt (this includes figures and graphs).
I often add the labels and legends when making the presentation for clarity.
● Prioritize clarity over volume – I know you did a lot of work (that was shared in the MI3 analytic document). The purpose of this presentation isn’t to show off how much you did.
Instead, think about your narrative and main results. Its much more impressive to tell a good, clean, short story than to cram in a ton of loosely linked analysis.

How will I know I have Succeeded?

You will meet expectations on Model and Prepare Presentation when you follow the criteria in the rubric below.

Formatting	About 7 slides ● PDF format for submission to collab ● Generate the slides through the program of your choice ● Slide numbers (except for title slide) ● Order ○ Title & Outline ○ Motivation/Context/Hypothesis/Research Question/Modeling Approach/Goal/Etc. ○ Data Explanation/Acquisition ○ Analysis Plan and Justification ○ Tricky Analysis Decision ○ Bias and Uncertainty Validation ○ Results/Conclusions ○ Next Steps ○References/Resources/Acknowledgements ○ Closing Slide ● General note: ○ Each section can take as many slides as it needs to unless specifically indicated as 1 slide. ○ Do not take the exact slide count as critical. When you practice you can time out the talk to hit the 7 minute mark. Some slides need more, and some slides need less time.
Title and Outline	1 slide ● Goal: Hook your audience and make the group that did the work clear ● Include: Group number and members and leader ● Include: Course and Date ● Title ○ Package your most important finding in headline format Outline

	○ Indicate the major parts of your presentation
Model Process	1-2 slides ● Goal: Explain why you chose the model that you did ● Motivation/Context ○ Share relevant information with the audience so that they can understand what you are investigating. ○ Share relevant information so that they can understand why this model fit the dataset
Data Acquisition	Goal: Your audience understands the key features of your data set and challenges if they are relevant. ● High-level summary of data set: ○ Share the information from your data dictionary in a condensed way. ○ Leave out most details but be prepared to answer follow-up questions. ○ State the format (e.g.: text, image, etc.) ○ State the size and necessary techniques if applicable ○ Discuss how your data set was acquired. Include relevant licensing or ethical concerns.
Analysis Plan and Justification	Goal: The audience will understand the pipeline you created. ● Show the diagram for your analysis pipeline. ● Highlight any particularly challenging components. ● Show any diagnostic or validation work done.
Tricky Analysis Decision	Goal: Identify and describe a decision you made in the analysis that was non-trivial. ● Every project has moments in analysis where you just need to make a decision, but the ‘right’ answer is not obvious or may not even exist. This slide is about one of those moments. ● Think about a judgment call you had to make in your project and describe why it matters and why it was tricky. ● Describe the impact of your decision. ● E.G.: What evaluation metric to choose, how many epochs to use,

	what data to exclude from analysis. ● N.B. If this decision made you deviate from the analysis plan registered in MI2, this is the moment to mention it.
Bias and Uncertainty Validation	Goal: This slide is designed to explain the difficulties in your data set ● List biases you consider and ones you correct for. ● Describe how you came to determine the uncertainty in the values you report.
Results and Conclusions	1 slide ● Goal: Summarize the results ● Address the hypothesis ● Share relevant figures and findings
Next Steps	1 slide ● Describe new lines of exploration discovered during the project ● Describes improvements that could be made ● Describe New questions that have arisen
References	Provide citations as necessary ● Provide links to resources used (e.g.: your GitHub page) ● Acknowledge contributions and assistance
Closing slide	1 slide ● Goal: Finish on a slide with an image you want people to remember ● This slide will sit up while people are asking questions, pick something memorable ● It can be a repeat from earlier ● Don’t be afraid to return to an earlier slide if a question takes you there