CS3 Rubric – Case Study Create

DS 4002 – Fall 2024 - Instructor: Loreto Alonzi
Due: Monday after Presentation week of each project cycle, via Canvas
Due: December 9, for comments; December 16 (*hard copy does not need to be final version if revision is required)
Submission format:

- **Upload link to GitHub repo to Canvas AND**
- **Hard copy turned into Data Science Building, Prof. Alonzi's office (Room 344). If that office isn't open, you may try to slide it under the door, leave it at the door, or place it on Layla's desk, section 358 in the same building section (if, for example, you are returning a CS2 from a previous term). In the case you experience extenuating circumstances, and the only available option is mail, feel free to mail it to Prof. Alonzi at the Data Science building. (1919 Ivy Road). In this last case, be aware of the deadline. It should have arrived by that date.**

Individual Assignment
General Description: Submit to canvas a link to your case study repository and a hard copy **Data Science Building, Prof. Alonzi's office (Room 344)**

Preparatory Assignments – Everything in the course, but especially CS2.

Why am I doing this? This is your opportunity to synthesize the lessons learned during this course and prepare one of your projects for delivery through a different mechanism than the in-class presentation, namely a case study. It is also your chance to contribute to those coming after you**.** The deliverable you will create is a case study targeted at a 2nd year UVA student. The reframing of your work with a new target audience gives you the chance to practice reaching a broader audience.

What am I going to do? In assignment CS2 you reviewed case studies created by your fellow students. Now in CS3 you have the opportunity to create a case study based on the work of ONE OF YOUR PROJECTS. (N.B.: your rubric for assessment, this document, is not the same as they received theirs, pay close attention to this one). First you will select one of ONE OF YOUR PROJECTS from this semester and think of a way to share that experience with future students. You will develop a case study targeting a 2nd year student. Then you will produce several items to hook the student as well to guide them through the process. Deliverables include:

Tips for success:

- Be bold. This is your chance to pick something you learned and share it.
- Don't overthink it. You are creating something for 2nd years, not Nobel prize winners.
- Don't overthink it. A clear presentation of fundamentals is more valuable than an unclear presentation of cutting-edge techniques.
- Talk to the instructors. This is a creative assignment, and you are allowed to show ideas to people for comment.
- Talk to your fellow students. This is a creative assignment, and you are allowed to show ideas to people for comment.

How will I know I have Succeeded? You will meet expectations on CS3 Create Case Study when you follow the criteria in the rubric below.

Formatting	● Repository-A github repository or a cloud storage page containing all materials ○ Submit a link to the repository ● Slide deck(8-10 slide PDF)
Github repository	● Goal: This repository serves as an orientation to everyone who comes to your project, it should enable them to get their bearings and repeat your results. ● Contents ○ LICENSE.md file (use MIT default) ○ README.md ■ overview, research links ■ instructions on how to replicate code ○ SRC folder ■ Contains all code ○ DATA folder ■ Data Pictionary (use markdown table formatting) ■ Data files ■ Relevant notes about the use of data usage ○ Output folder ■ Table of contents describing all figures produced and summarizing their takeaways ■ Figures files ● References ○ All references should be listed at the end of the document ○ Use lEEE documentation style
Slide deck	● Goal: This pdf should inform the Biogen *ALEZOYA* R&D team of any relevant research conducted, the analysis and conclusions, and how you would suggest they move forward with your model. ● Relevant research ○ Briefly introduce your task: classification of brain MRI images of Alztiemers patients into categories ○ Explain motivation and relevance (2 slides max) ● Analysis

	○ Data acquisition: briefly describe dataset ○ Techniques/Algorithms ■ Evaluation Metrics(Accuracy, F1, Precision, Recall) ● Findings ○ How well did your model perform(accuracy, false positives/ false negatives)? ○ Highlight any meaningful insights from the analysis section. (2 slides max) ○ Limitations/ethical concerns ● Next Steps ○ Based on your model and analysis do you think this model is ready to use in clinical pre-screenings? ○ Further improvement (2 slides max) ● PDF format

Acknowledgements: Special thanks to Jess Taggart from UVA CTE for coaching on making this rubric. This structure is pulled from Streifer & Palmer (2020).