CS2 Rubric – Boston's Features Rubric

DS 4002 – Fall 2023 - Professor Alonzi
Due: Dec 4, for comments; final Dec 11 (*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 in to Elson 185A
UPDATE: It can also be turned in under the basket in Dell 1 – see canvas announcement for more details

Individual Assignment

General Description: Submit to canvas a link to your case study repository and a hard copy to Professor Alonzi's office (400 Brandon Ave – Elson Building School of Data Science Faculty Offices room 185A).

Preparatory Assignments – Everything in the course, but especially CS1.

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 what will come 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.

- Course Learning Objective: prepare findings for presentation to your peers

What am I going to do? We read and produce solutions to case studies to practice thinking like a data scientist. In this case, you will produce a model for Google and present how well the model works. We are focused on using data to translate the finding into meaningful change. This example involves creating a model that can extract features from images of Boston. The audience will be a high-level Google executive. You will present the performance of the model and convince the executive how to move forward with this model, like whether this model be used on other cities to extract their features or not. While completing the case study, you are encouraged to then research the topic at hand and come up with your analysis and solutions being tasked to you.

Tips for success:

- Be bold. This is your chance to pick something you learned and share it.
- Don't overthink it. A clear presentation of fundamentals is more valuable than an unclear presentation of cutting-edge techniques.
- Talk to the professor and the TA. 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 CS2 Create Case Study when you follow the criteria in the rubric below.

Spec Category	Spec Details
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)

Slide deck	• Goal: This pdf should inform the Google executive 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: finding ways to identify Boston as Boston through extracting its image features. (2 slides max)
	• Analysis
	  ○ Explain from a high level how you planned to extract these features
	  ○ Then explain the techniques or algorithms used to do complete the feature extraction (3 slides max)
	• Findings
	  ○ How well did your model perform?
	  ○ Highlight any meaningful insights gleaned from the analysis section. (2 slides max)
	• Next Steps
	  ○ Based on your model and the insights you found, how do you recommend Google move forward with the project. Is the model ready to be used on other cities? (2 slides max)
	• PDF format

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
	  ○ README.md, overview, research links, etc.
	  ○ SRC folder
	  ▪ Contains all code
	  ○ DATA folder
	  ▪ Data Dictionary (use markdown table formatting)
	  ▪ Data files
	  ▪ Relevant notes about the use of data
	  ○ FIGURES 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 IEEE documentation style

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