

# CS2 - Baldness Rubric

**DS 4002 – Spring 2023 - Professor Alonzi**

**Due: May 3, noon for comments; final May 10, noon (\*hard copy does not need to be final version if revision is required)**

**Submission format: Upload link to github repo and hard copy of the slide deck**

## 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?** We read and produce solutions to case studies to practice thinking like a data scientist. In this example the focus is on producing a model for private enterprise and assessing the usability of the model. We are focused on using data to translate the findings into meaningful change. This example involves creating a model to predict whether an image of a man is balding or not. The target audience is a group managers for companies that sell beauty products. You want to present your findings and suggest how (or if) they can target balding men to sell them bald-specific beauty products (e.g. scalp skin care, toupees, hair loss solutions). 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.

- Course Learning Objective: synthesize relevant ideas in a domain and create a testable hypothesis
- Course Learning Objective: present results of a team project and field audience questions
- Course Learning Objective: translate processes from theory in the scientific method into functioning data science pipelines

**What am I going to do?** You will begin by reading the one-page prompt for this case study. In the prompt, you will be given the task at hand. Come up with any ideas you might have, and play around with the possibilities of all of them. Next, create a plan of action to produce the main deliverable of the case study. The deliverable here is a slide deck containing your analysis, findings, and potential suggestions going forward. The analysis is the methodology you took in order to undertake the case study. Your findings are the meaningful results that came out of your analysis. Your suggestions are, given the newfound insights you just developed, what do you recommend the beauty product firms should do going forward. Furthermore, you will create a GitHub repository, containing all of the materials you used to complete the case study, such as coding files, as well as the images and figures you create.

### 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 2<sup>nd</sup> 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 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 - Baldness when you follow the criteria in the rubric below.

Spec Category	Spec Details
Formatting	<ul style="list-style-type: none"> <li>• Repository – A cloud storage folder containing all materials <ul style="list-style-type: none"> <li>◦ Submit a link to the repo</li> </ul> </li> <li>• Slide deck (8-10 slide PDF)</li> </ul>
Slide deck	<ul style="list-style-type: none"> <li>• Goal: This pdf should inform the beauty product firms of some background, your analysis and findings, as well as suggestions of how to implement this model.</li> <li>• Background <ul style="list-style-type: none"> <li>◦ Briefly introduce the topic: finding ways to target balding men for beauty products (scalp skin care, toupees, hair loss solutions), as well as some initial findings of your research. (2 slides max)</li> </ul> </li> <li>• Analysis <ul style="list-style-type: none"> <li>◦ Explain the analytical methods or techniques you took to go about predicting whether an image of a man was bald or not (programming language, functions, models, statistical measures, etc.) (3 slides max)</li> </ul> </li> <li>• Findings <ul style="list-style-type: none"> <li>◦ Highlight the meaningful insights you gained from your analysis, how successful your model was at predicting on images of men, and whether your model is ready for implementation (2 slides max)</li> </ul> </li> <li>• Suggestions <ul style="list-style-type: none"> <li>◦ Based on your findings, what do you recommend these beauty product firms do with your model? If it is ready to be implemented, how do you suggest that they go about implementing it (e.g., using it on social media sites to message balding men)? (3 slides max)</li> </ul> </li> <li>• PDF format</li> </ul>
GitHub Repository	<ul style="list-style-type: none"> <li>• 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.</li> <li>• Contents <ul style="list-style-type: none"> <li>◦ README.md on overview, research, links, etc.</li> <li>◦ SRC folder <ul style="list-style-type: none"> <li>▪ Contains all code</li> </ul> </li> </ul> </li> </ul>

	<ul style="list-style-type: none"> <li>○ DATA folder <ul style="list-style-type: none"> <li>▪ Data Dictionary (use markdown table formatting)</li> <li>▪ Data files</li> <li>▪ Relevant notes about use of data</li> </ul> </li> <li>○ FIGURES folder <ul style="list-style-type: none"> <li>▪ Table of contents describing all figures produced and summarizing their takeaways</li> <li>▪ Figures files</li> </ul> </li> <li>○ REFERENCES folder <ul style="list-style-type: none"> <li>▪ All references should be listed in a text file (Use IEEE Documentation style (<a href="#">link</a>))</li> <li>▪ Include any acknowledgements</li> </ul> </li> <li>• Fore code, data, and figures use the appropriate format for whatever it is.</li> </ul>
	<ul style="list-style-type: none"> <li>• Goal: Include materials necessary for a student to engage with the case study.</li> </ul>

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