# CS-TSHIRT RUBRIC

**DS 1234 - Professor French**
**Due: 12/24, 11:59 pm**
**Submission format: Upload your edited .ipynb file to the Collab assignment. Be sure to follow the file naming convention specified in the notebook and include any additional images used.**

**Individual Assignment**

**Preparatory Assignments**: Class sessions on Jupyter Notebook, numpy, and Python functions. Class sessions on problem-solving and communication. Supplementary resources.

**Why am I doing this?** From a technical perspective, this assignment will reinforce concepts we discussed in class about using Jupyter Notebook and writing efficient functions. From a cognitive perspective, this assignment is well-grounded but also open-ended enough to encourage creative thinking. Finally, from a soft-skills perspective, being able to communicate with a manager, meet their requests, and explain technical terms simply are all practical skills to have.

**What am I going to do?** Many more details can be found in the Jupyter notebook file. At a high level, you will assist your manager in improving an algorithm calculating printing price. You will be asked to improve existing functions, conduct research, write your own functions from scratch, and defend both your creative and technical decisions.

**Tips for success**:

- Explore provided resources before getting into the weeds of the project. Don't pigeonhole yourself early on!
- Be open-minded, as long as you can justify your decisions and answer the questions appropriately, anything goes
- Take it one step at a time. There is a lot to this project, but it is broken down into sequential steps. Don't get overwhelmed and focus on the task at hand

How will I know when I have succeeded? The six tasks will be assessed using the rubric below:

| Task | Spec Details |
|---|---|
| Task 1: Pricing Function | • The function runs within a reasonable time frame a returns a feasible price<br>• The written description is accurate and is not overly technical<br>• **Bonus:** The time complexity discussion is evidently well-researched and includes an idea (not implemented) for a way to decrease the run time of the function |
| Task 2: Improvement Research | • It is evident that the student consulted the supplemental materials<br>• It is evident that the student consulted at least one resource not provided in the supplemental materials<br>• The answers to the manager's questions are reasonable and supported with evidence. The answers are not overly technical<br>• **Bonus:** The student lists an idea (not implemented) for at least one feasible improvement not listed by the manager |
| Task 3: Improvement Implementation | • The improved functions correspond to the research conducted in task 2<br>• The functions run and return feasible results<br>• The functions are commented appropriately |
| Task 4: Function Comparison | • The student meaningfully compares the results from the two functions<br>• **Bonus:** The student uploads several additional images to test the functions on. These images are chosen for some reason, and the student discusses what the results tell us |
| Task 5: Email Summary | • The email is appropriate and follows formal conventions as discussed in class<br>• The student is able to effectively convey their results, again without excessive technical language |
| Task 6: Formatting and Submission | • In general, the notebook is clean, formatted appropriately, and contains comments when needed<br>• The .ipynb file is named following the specified naming convention and is submitted to the Collab assignments page on time<br>• If the student tested their pricing function on additional images, those are also uploaded to Collab |