

# The T-Shirt Printing Pricing Challenge

A UVA Data Science Case Study by Hayden French



The exciting world of t-shirt printing

**Prompt:** You have been hired as a data science intern at a t-shirt printing company. You have been brought in as the company needs help refining its pricing model. Different ink colors have different prices, so the company wishes to develop a dynamic model to determine the markup for any custom t-shirt design a user can upload. They have a rudimentary algorithm in place but have noticed a lot of room for improvement. Your task is to improve this algorithm and convince your manager of its efficacy.

**Deliverable:** This assignment will be completed entirely in the .ipynb file. Much more in-depth instructions can be found there, but here is a quick overview of the main tasks:

- Write a function to calculate the printing price of a given image
- Summarize research on potential improvements to the given pricing function
- Implement these improvements and defend your work
- Run your new function and compare it to the original
- Share your results and any outstanding thoughts in the form of an email to your manager

**Scoring:** This is not entirely a technical assessment. While your code is important, you will also be judged on your general approach and ability to explain and defend your work. Additionally, note the opportunities for bonus points if you decide to tackle some extra-credit style questions.