CSC/SDS 109: Communicating with Data

# HW 02: First Tableau Visualizations

This is an individual or pair assignment-- you pick (collaboration is highly encouraged)!

**Goals:**

* **Work with real data**
* **Use Tableau to visualize data**

## Instructions

Step 1: Obtain Data

* Choose one of the datasets under the “In-class” tab on the course website:
  + **\*\*Use the dataset on the course website – they’ve been cleaned for you**
  + College.csv (source: <https://www.kaggle.com/datasets/yashgpt/us-college-data>)
  + cereal.csv (source: <https://perso.telecom-paristech.fr/eagan/class/igr204/datasets>)
  + palmerpenguins.csv (source: <https://allisonhorst.github.io/palmerpenguins/articles/intro.html>)
  + bluebikes-tripdata\_sm.xlsx (source: <https://data.boston.gov/dataset/blue-bikes-system-data>)
* Load the dataset into Tableau and explore the dimensions. For example, if you download the cereal dataset, you'll see something like this:

**A screenshot of a computer

AI-generated content may be incorrect.**

Step 2: Deliverable

* Review your dataset. Answer the following:
  + - * Who collected the data? (If you can’t tell, record how you searched for this information.)
      * When was the data collected? (If you can’t tell, record how you searched for this information.)
      * What does each observation (row) represent?
      * What variables (columns) are included?
      * Is the dataset representative of the population it seeks to capture? (ex. If the dataset claims to be US Colleges, are college across the entire country included? Are public and private institutions included? Etc.)
      * Pick one of the questions you answered above. What implications does your answer have for biases or ethical issues present in the data?
* Using Tableau, create three DIFFERENT visualizations that each show something interesting in your data. Each visualization must:
  + Show unique dimensions of the dataset (i.e. not the same as your other two visualizations)
  + Be a unique visual encoding (i.e. not the same as your other two visualizations)
  + Include:
    - Descriptive title
    - Readable axis titles
    - Readable axis labels
    - A legend when necessary
    - Zero double encodings
    - Appropriate data-visual mappings
* Take a screenshot of your completed visualizations and add them to the document you will turn in.
* Below each visualization briefly describe what interesting trend is shown.

## Submission

Submit your deliverable(s) as a PDF on Gradescope. If you worked with a partner, submit as a group (<https://guides.gradescope.com/hc/en-us/articles/21863861823373-Adding-Group-Members-to-a-Submission>).

## Rubric

The following matches the rubric you will see on Gradescope.

|  |  |  |
| --- | --- | --- |
|  | Points | Criteria |
| General: | 0.5 | Data collector (or search procedure) |
|  | 0.5 | Data collection time (or search procedure) |
|  | 0.5 | ID observation |
|  | 0.5 | ID variables |
|  | 0.5 | Representativeness of data |
|  | 0.5 | Data biases |
| For each visualization: | 0.5 | Screenshot |
|  | 2 | Description of interesting trend |
|  | 1 | Unique dimensions |
|  | 1 | Unique visual encoding |
|  | 0.5 | Descriptive title |
|  | 0.5 | Readable axis titles |
|  | 0.5 | Readable axis labels |
|  | 0.5 | A legend when necessary |
|  | 0.5 | Zero double encodings |
|  | 2 | Appropriate data-visual mappings |
| TOTAL | 30 |  |