# Data Appendix

**Analysis Data File 1**

- Unit of Observation: Each row in the dataset represents an individual image of waste.
- Total Observations: 4,752

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**Variables**

1. Variable name: image
   - Type: object
   - Description: 524 x 524 resolution waste image samples.
   - Observations: 4,752(4,752)
   - Transformations: All images were resized to 128x128. Data augmentation for training was implemented: horizontal flips and rotations up to 10 degrees. Images were converted from PIL to a PyTorch tensor format. Lastly, normalization was applied to adjust pixel values.
   - Frequency table:
     - | | |
       |---|---|
       | Total unique images | 4,752 |
   - An example image for each waste_type:
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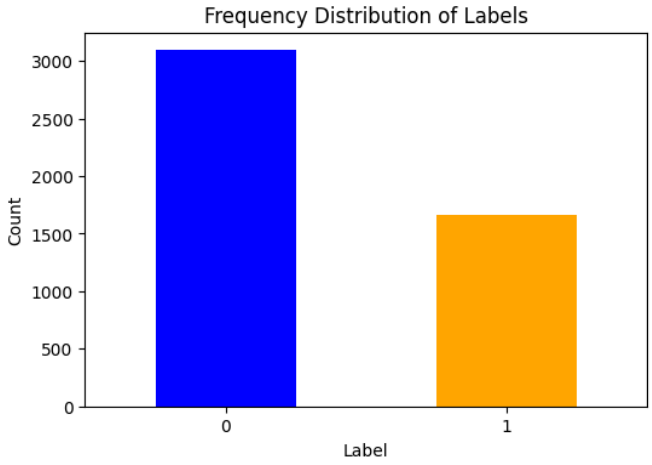
2. Variable name: labels
   - Type: int64
   - Description: Labels the image as either recyclable or non recyclable.
   - Observations: 4,752(4,752)

- Transformations: This variable was created by assigning a unique numeric label (0 for recyclable and 1 for non_recyclable) to each image. The labels were derived based on the waste type indicated by the subdirectory name in the repository where the images were sourced.
- Frequency table:
    - 

| labels | count |
|---|---|
| 0 (recyclable) | 3092 |
| 1 (non recyclable) | 1660 |

- Bar chart showing frequency distribution:
    - 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3. Variable name: waste_type
    - Type: object
    - Description: Label of the type of waste: cardboard, food organics, glass, metal, miscellaneous trash, paper, plastic, textile trash, or vegetation.
    - Observations: 4,752(4,752)
    - Transformations: This variable was created by extracting the waste type from the subdirectory name from the repository where we sourced the images.
    - Frequency table:
        - 

| waste_type | count |
|---|---|
| Plastic | 921 |
| Metal | 790 |
| Paper | 500 |

| | |
|---|---|
| Miscellaneous Trash | 495 |
| Cardboard | 461 |
| Vegetation | 436 |
| Glass | 420 |
| Food Organics | 411 |
| Textil Trash | 318 |

- Bar chart showing frequency distribution: