Assignment 1 - Part A - Infrastructure Setup

CS-4320-01 Machine Learning
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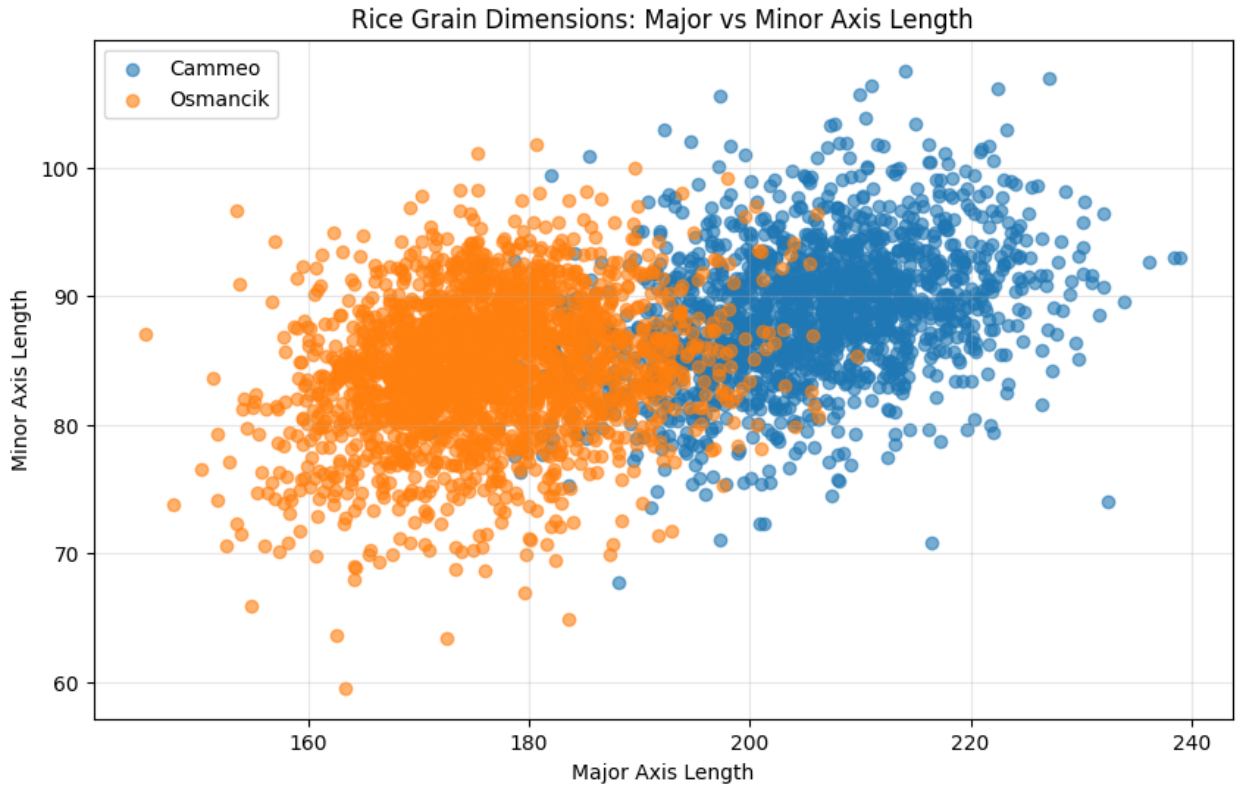
1. Google Colab

First line of data from the data file

```
    Area    Perimeter   Major_Axis_Length   Minor_Axis_Length   Eccentricity
Convex_Area     Extent  Class
0   15231   525.578979  229.749878  85.093788   0.928882    15617   0.572896    Cammeo
```

Image generated



Mean and standard deviation of Perimeter for the Cammeo class

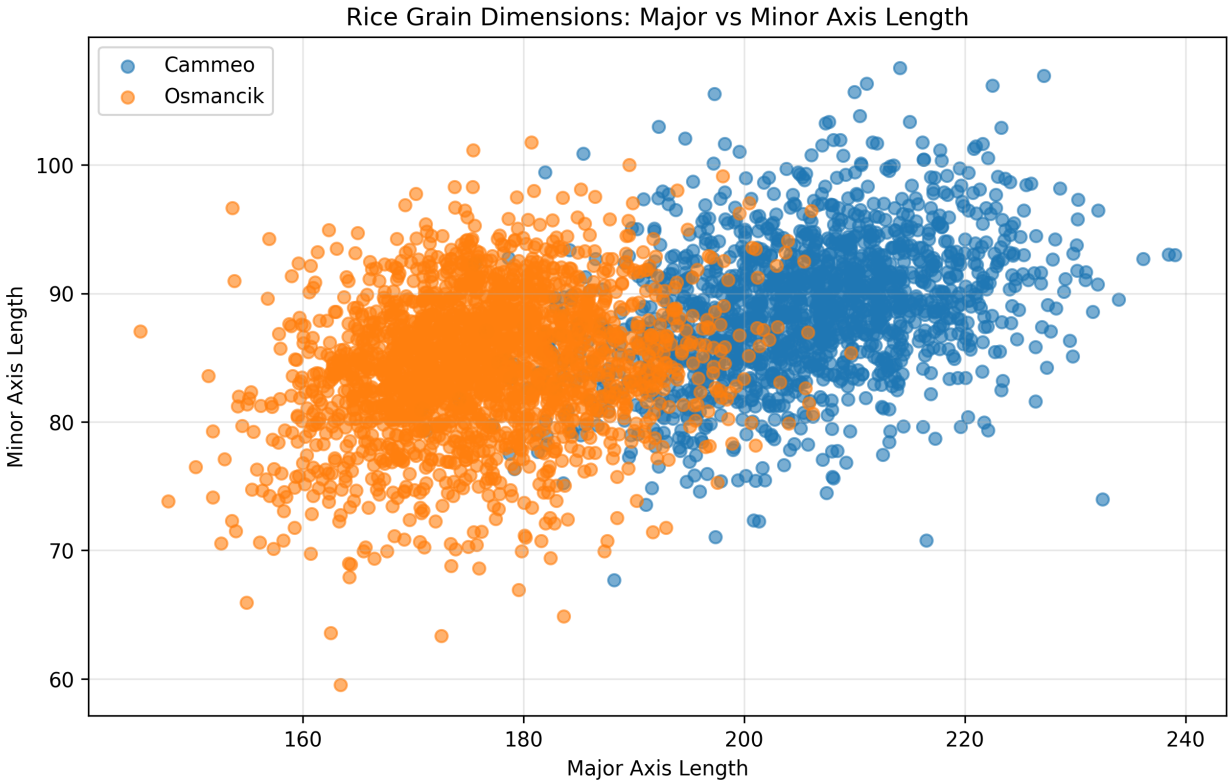
```
Aggregate Statistics (Class: Cammeo)
  Perimeter Mean: 487.44
  Perimeter Std Dev: 22.18
  Sample Count: 1630
```

2. Local Environment

First line of data from the data file

```
    Area    Perimeter  Major_Axis_Length  ...  Convex_Area    Extent   Class
0  15231  525.578979         229.749878  ...        15617  0.572896  Cammeo
```

Image generated



Average perimeter and standard deviation of perimeter for Cammeo class rice kernels

```
Aggregate Statistics:
----------------------------------------
Class: Cammeo
  Perimeter Mean: 487.44
  Perimeter Std Dev: 22.18
  Sample Count: 1630
```

3. Data loading verification

Google Collab

```
Reading CSV from GitHub raw URL: https://raw.githubusercontent.com/stephen010x/
ut_collab_data/refs/heads/main/assignment-01/2026-20-aaa-220-Rice_Cammeo_Osmancik.csv
Successfully loaded 3810 rows and 8 columns
```

Local Environment

```
Loading CSV file with pandas...
Successfully loaded 3810 rows and 8 columns
```

4. Reproducibility artifacts

Reference `1. Google Colab` and `2. Local Environment` I guess?

5. Reflection

I suppose Google Colab was the easiest, once I figured out how to use it. But I might also list Colab as the most frustrating, as it was a pain to figure out, and anything that requires a browser interface is inconvenient to me as opposed to a terminal interface. I expect myself to be using my local environment the most, simply because it will be very easy for me to keep everything organized, easy to run, and isolated from bloated web application interfaces. Though I may reluctantly resort to Google Colab if I have tasks that might be too resource intensive to be ran on my local machines.