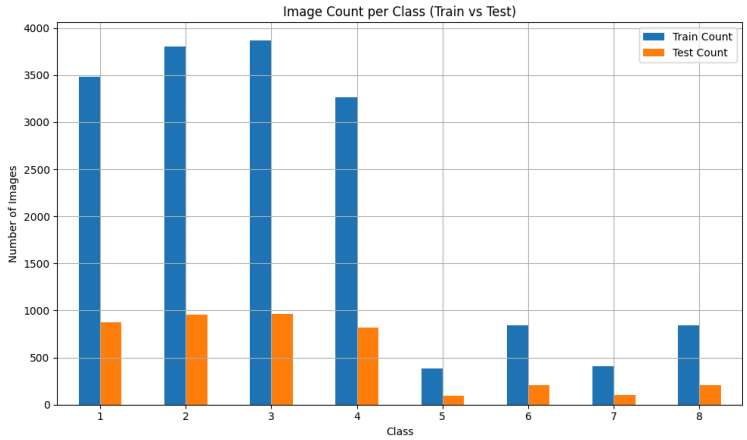

Figure 1 – Class Distribution (Train vs Test)

A bar plot showing the number of images in each fruit class for both the training and testing datasets. This highlights class imbalance, with some fruit types having over 3,800 images and others under 400.

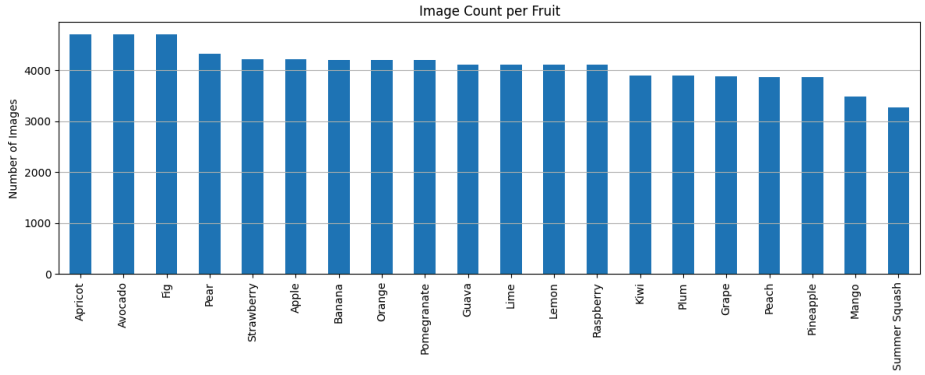

Figure 2 – Image Count per Fruit

This bar plot shows the total number of labeled images available for each fruit class across the dataset. The distribution appears relatively balanced, with most fruits having between 3,800 and 4,700 images.

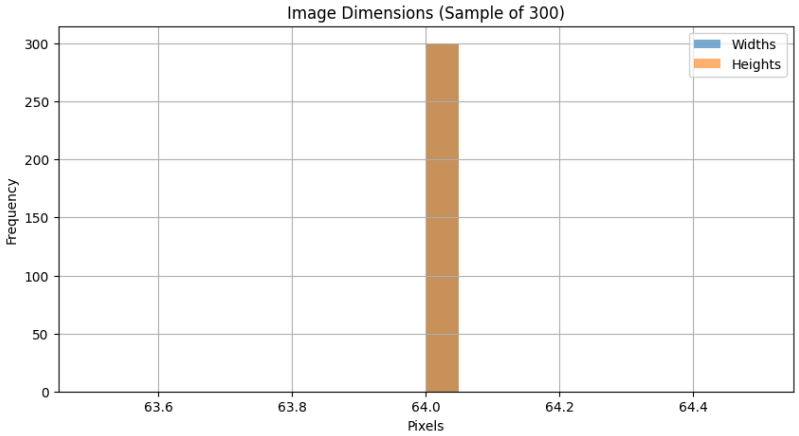

Figure 3 – Image Size Distribution

A histogram showing the distribution of image widths and heights across a random sample of 300 images. Most images fall within a certain pixel range, indicating relative consistency but with some variation in dimensions.

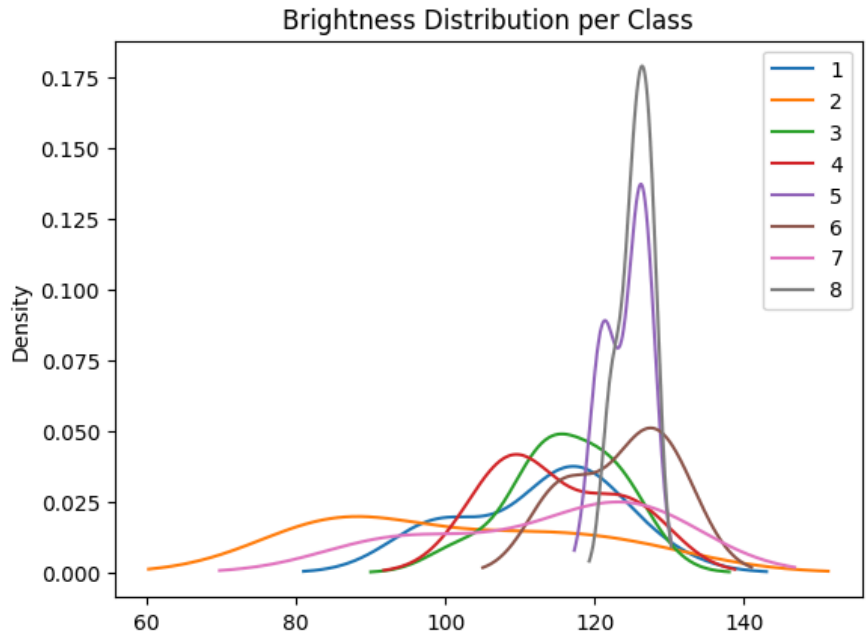

Figure 4 – Brightness Distribution by Class

A KDE (Kernel Density Estimation) plot of average image brightness for each fruit class. This provides insight into lighting variation across classes, which could affect model performance if not normalized.

Data Dictionary:

Column Name	**Type**	**Description**
FileName	String	Name of image file
Apple, Banana, etc.	Integer (0 or 1)	One-hot encoded label columns indicating presence (1) or absence (0) of a fruit
Class Folder	String / Integer	Folder name (1–8) associated with a specific fruit type
Image Size	Tuple (int, int)	Width and height of the image in pixels
Brightness	Float	Estimated grayscale brightness level of the image (0–255 scale)