**Model Development Phase Template**

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| Date | 20 November 2025 |
| Team ID | 740018 |
| Project Title | Deepfruitveg:Automated Fruit And Vegetables Identification |
| Maximum Marks | 5 Marks |

**Feature Selection Report Template**

The Feature Selection Report for Deepfruitveg identifies relevant features for fruit/vegetable identification, using techniques like PCA, filter methods, and embedded methods, optimizing model performance while reducing complexity and training time.

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| **Feature** | **Description** | **Selected (Yes/No)** | **Reasoning** |
| **Color Histogram** | Represents the color distribution of the fruit/vegetable | Yes | Key feature for distinguishing between different types of fruits and vegetables based on color. |
| **Texture (Haralick features)** | |  | | --- | | Measures texture patterns like smoothness or roughness |  |  | | --- | |  | | Yes | Provides important information for differentiating fruits and vegetables with similar colors. |
| **Shape Descriptors** | Defines the shape characteristics (e.g., roundness) | Yes | Crucial for identifying fruits/vegetables with distinct shapes, like apples or cucumbers. |
| **Size (Dimensions)** | The size of the fruit/vegetable in terms of width/height | No | Less relevant compared to color, texture, and shape features for fruit/vegetable classification. |
| **Edge Detection Features** | Identifies the boundaries of the object in images | No | Redundant with texture and shape features, not adding significant value to the classification. |
| **Ripeness Level** | Estimates the ripeness from image characteristics | Yes | Important for identifying fruits/vegetables in different stages of ripeness for accurate classification. |