Dry Bean Classification

Dataset Description -

1.) Area (A): The area of a bean zone and the number of pixels within its boundaries.

2.) Perimeter (P): Bean circumference is defined as the length of its border.

3.) Major axis length (L): The distance between the ends of the longest line that can be drawn from a bean.

4.) Minor axis length (l): The longest line that can be drawn from the bean while standing perpendicular to the main axis.

5.) Aspect ratio (K): Defines the relationship between L and l.

6.) Eccentricity (Ec): Eccentricity of the ellipse having the same moments as the region.

7.) Convex area (C): Number of pixels in the smallest convex polygon that can contain the area of a bean seed.

8.) Equivalent diameter (Ed): The diameter of a circle having the same area as a bean seed area.

9.) Extent (Ex): The ratio of the pixels in the bounding box to the bean area.

10.)Solidity (S): Also known as convexity. The ratio of the pixels in the convex shell to those found in beans.

11.)Roundness (R): Calculated with the following formula: (4piA)/(P^2)

12.)Compactness (CO): Measures the roundness of an object: Ed/L

13.)ShapeFactor1 (SF1)

14.)ShapeFactor2 (SF2)

15.)ShapeFactor3 (SF3)

16.)ShapeFactor4 (SF4)

17.)Class (Seker, Barbunya, Bombay, Cali, Dermosan, Horoz and Sira)