

GROUP 10:

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TITLE: Predicting Dry beans classes using machine learning models.

Data source: Dataset is taken from the UCI Machine learning repository. In this site we can find many of the datasets which we can use for research in the machine learning field.

Description of the dataset:

Data set consists of 7 different types of beans classes. It has 13611 rows and 17 columns. 16 features are the independent features of dry beans and remaining is the Class feature which has types of dry beans.

Sample image of the dataset:

```
dt1.head()
```

| centricity | ConvexArea | EquivDiameter | Extent | Solidity | roundness | Compactness | ShapeFactor1 | ShapeFactor2 | ShapeFactor3 | ShapeFactor4 | Class |
|------------|------------|---------------|----------|----------|-----------|-------------|--------------|--------------|--------------|--------------|-------|
| 0.549812 | 28715 | 190.141097 | 0.763923 | 0.988856 | 0.958027 | 0.913358 | 0.007332 | 0.003147 | 0.834222 | 0.998724 | SEKER |
| 0.411785 | 29172 | 191.272750 | 0.783968 | 0.984986 | 0.887034 | 0.953861 | 0.006979 | 0.003564 | 0.909851 | 0.998430 | SEKER |
| 0.562727 | 29690 | 193.410904 | 0.778113 | 0.989559 | 0.947849 | 0.908774 | 0.007244 | 0.003048 | 0.825871 | 0.999066 | SEKER |
| 0.498616 | 30724 | 195.467062 | 0.782681 | 0.976696 | 0.903936 | 0.928329 | 0.007017 | 0.003215 | 0.861794 | 0.994199 | SEKER |
| 0.333680 | 30417 | 195.896503 | 0.773098 | 0.990893 | 0.984877 | 0.970516 | 0.006697 | 0.003665 | 0.941900 | 0.999166 | SEKER |

The above image is a sample of dry beans dataset. We can see that sample values of dry beans features. These are some of the geometric features of the dry beans dataset.

IEEE Paper link:

<https://ceur-ws.org/Vol-2951/paper3.pdf>

Dataset source link:

<https://archive.ics.uci.edu/dataset/602/dry+bean+dataset>