

Pumpkin Seeds Dataset

Details

The pumpkin plant belongs to the Cucurbitaceae family and has seasonal varieties. Confectionery pumpkins, grown in Turkey, are usually produced from the pumpkin species, *Cucurbita pepo* L and sometimes from the *Cucurbita moschata* Duchesne type. Pumpkin seeds are considered as important for human health because it contains 37 percent of carbohydrate, 35 percent to 40 percent of fat and protein along with calcium, potassium, phosphorus, magnesium, iron, and zinc. Pumpkins are divided into many types, and one of these species is known as “Urgup Sivrisi”. Urgup Sivrisi is a type of pumpkin seed that has a long, white, very bright, thin, and hardly distinguishable shell with a pointed tip. The other type of pumpkin seeds is “Cercevelik”. It is a particular species grown in Turkey, Nevsehir, Karacaoren, and known as “Topak” in Turkey.

Features

- Area – Number of pixels within the borders of a pumpkin seed
- Perimeter – Circumference in pixels of a pumpkin seed
- Major_Axis_Length – Large axis distance of a pumpkin seed
- Minor_Axis_Length – Small axis distance of a pumpkin seed
- Convex_Area – Number of pixels of the smallest convex shell at the region formed by the pumpkin seed.
- Equiv_Diameter – Computed as $\sqrt{4a/\pi}$, where a is the area of the pumpkin seed.
- Eccentricity – Eccentricity of a pumpkin seed
- Solidity – Convex condition of the pumpkin seeds
- Extent – Ratio of a pumpkin seed area to the bounding box pixels
- Roundness – Ovality of pumpkin seeds without considering the distortion of the edges.
- Aspect_Ration – Aspect ratio of the pumpkin seeds
- Compactness – Proportion of the area of the pumpkin seed relative to the area of the circle with the same circumference
- Class – Either Cercevelik or Urgup Sivrisi

Relevant Papers

Koklu, M., Sarigil, S., & Ozbek, O. (2021). The use of machine learning methods in classification of pumpkin seeds (*Cucurbita pepo* L.). Genetic Resources and Crop Evolution, 68 (7), 2713-2726. Doi: <https://doi.org/10.1007/s10722-021-01226-0>