

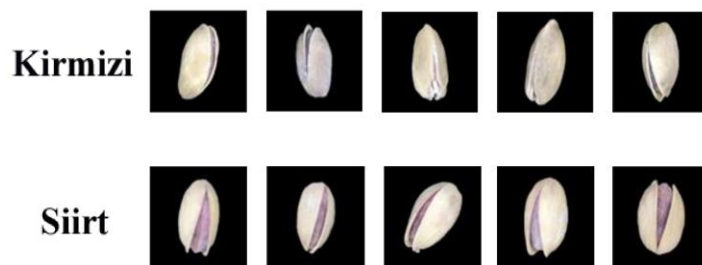
## **Pistachio classification**

Pistachio is a shelled fruit from the anacardiaceae family. The homeland of pistachio is the Middle East. The Kirmizi pistachios and Siirt pistachios are the major types grown and exported in Turkey. Since the prices, tastes, and nutritional values of these types differs, the type of pistachio becomes important when it comes to trade.

Your goal is to identify these two types of pistachios, which are frequently grown in Turkey, by classifying them via convolutional neural networks.

Data collection: Kirmizi and Siirt pistachio types were obtained through the computer vision system. The pre-trained dataset includes a total of 2148 images, 1232 of Kirmizi type and 916 of Siirt type.

### **Example images:**



### **Hints:**

1. Apply ML model by converting the image to structure dataset
2. Build a Convolutional neural network
3. Apply transfer learning models such as VGG, ResNet, MobileNet to extract features and do classification
4. Record error metrics (confusion matrix, accuracy, recall and error curves) for all applied models and compare them, come up with best model.