**Project topic:** Fruttaspy

**Project description:**

Fruttaspy is web application for the study of various types of fruits and classify them accordingly. The objective of the project is to develop an application which can tell us the mineral content in a particular fruit. This web application would be helpful for Botanist, Nutritionist or someone who are interested in the study of fruits and its minerals content.

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**Source of data:**

A high-quality, dataset of images containing fruits are taken from [www.kaggle.com](http://www.kaggle.com), online community for data scientists owned by google. Dataset includes: Apples (different varieties: Golden, Golden-Red, Granny Smith, Red, Red Delicious), Apricot, Avocado, Avocado ripe, Banana (Yellow, Red), Cactus fruit, Cantaloupe (2 varieties), Carambula, Cherry (different varieties, Rainier), Cherry Wax (Yellow, Red, Black), Clementine, Cocos, Dates, Granadilla, Grape (Blue, Pink, White (different varieties)), Grapefruit (Pink, White), Guava, Huckleberry, Kiwi, Kaki, Kumsquats, Lemon (normal, Meyer), Lime, Lychee, Mandarine, Mango, Maracuja, Melon Piel de Sapo, Mulberry, Nectarine, Orange, Papaya, Passion fruit, Peach (different varieties), Pepino, Pear (different varieties, Abate, Monster, Williams), Physalis (normal, with Husk), Pineapple (normal, Mini), Pitahaya Red, Plum, Pomegranate, Quince, Rambutan, Raspberry, Redcurrant, Salak, Strawberry (normal, Wedge), Tamarillo, Tangelo, Tomato (different varieties, Maroon, Cherry Red), Walnut. Total number of images are 59842, image size is 100x100 pixels in jpg format.

**Methodology:**

We will be training dataset using Convolutional Neural Network (CNNs) and vgg16 model to enhance its accuracy. Python library will be used to convert desired output to speech format for more interactive user interface.

**Output Description:**

Machine Learning will identify class of newly introduced images of fruits, in addition, it will specify their mineral contents.