

# CV - Homework 1 - Count Spoons

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## 1 Problem

Given a picture determine how many spoons are there in the baby can.

## 2 Algorithm

### 2.1 Idea

The idea of the algorithm is to split image into color channels and then determine count of pixels that has major in red channel (I call this count image weight). Most pixels with the major in red channel belong to spoon so their count may give us the spoons count. I assume that pixel is major in red if for it's channels  $2R > B + 2G$ .

### 2.2 Train

At training step the algorithm estimates a mean weight values for the each class of image (class is spoons count). Then the barriers between neighbours classes are counted as mean values of classes means.

### 2.3 Test

Then the weight is counted for each image and it's classified according the barriers.

## 4 Program testing results

On the samples given the program achieved such great results:

- 1) Class: no spoon; The precision is: 100%; The recall is: 100%; The accuracy is: 100%.
- 2) Class: one spoon; The precision is: 100%; The recall is: 100%; The accuracy is: 100%.
- 3) Class: two spoons; The precision is: 100%; The recall is: 100%; The accuracy is: 100%.

