

# Fundamentals of Computer Vision

First assignment: Morphological operators and Feature Detectors

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# Objective of the assignment

## **Main objective:**

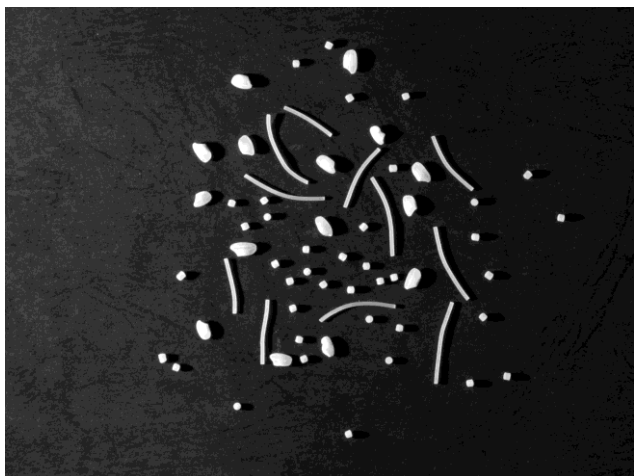
- Implement a complete solution using some of the techniques explained during the course
- Given an input and an expected output, the students have freedom to choose the solution it suits better the problem

## **2 tasks to be solved:**

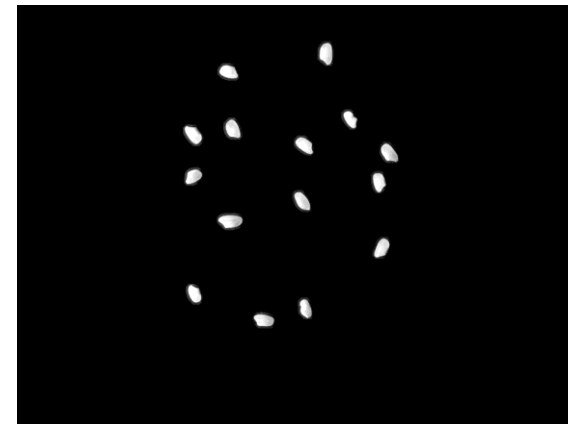
- **Pasta image:** count the number of elements of each kind AND provide separate images for each of them
- **Easy OCR:** provide the actual reference number

# Expected output

**Pasta image:**



Input image



Output images

11 spaghetti  
15 pasta  
39 grains

# Expected output

## Product image:



Input image

Result: 1234567

# Key information

## **Code constraints:**

- Solution should be programmed in Python
- Two algorithms should be provided:
  - Count\_pasta
  - Read\_reference
- Both should have as compulsory input the path to the image that will be tested. For road reference, the binary mask of the reference number could be used as an optional input

# Key information

## **Work organization:**

- The task should be done in pairs. If no fellow is found, ask the teacher
- Submission date: December 9th **NO EXTENSION WILL BE GRANTED**
- Content of the delivery:
  - .py files with the code
  - PDF file explaining how you got to the solution
    - Flow diagrams
    - Pseudocode
- Submission should be done via virtual campus
  - Both students of the group should do the delivery

# Key information

## **Work presentation:**

- Each group will present their work during the December 14th session
- Oral presentation is compulsory to obtain a mark.
- 5 minute presentation, explanation of working flow and results
- Only one member of the team will present but the teacher will select on site which of them