Homework 3 : MAK230E Image Processing

Handed out: Monday, January 01, 2021 **Due:** **January 20, 2021**

This assignment aims to show you the capabilities of Python's image processing. You will learn image processing details by yourself through online documentations and other useful sources you prefer. You will work on 3 different images, and they are uploaded in the .rar file.

You can use any compatible library you like.

! Upload single .py file to ninova. Add additional explanations to be able to use required libraries in the .py file at comments. Other format files or additional folders will cause penalty to your points.

1) For this task, work with **chromiumalloy.gif** file. You need to write your code to detect the grain boundaries of this metal alloy cross section view.

2) For this question, work with **800.jpg** file. You will make this image sharper by using image processing algorithms. Person is George Clooney in the image, so you can benefit from other images to train your algorithm.

3) For this question, work with **pipes.jpg** file. You will detect the number of circular shapes in the image, and you will draw the boundaries of the circles on the image.

Your code should automatically import the image files and show the results by reading the single same m file.