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| **Image Processing** | |
| Instructor: Dr. Anas Toma | Final Project |
| Academic year**: 2020/2021** | Semester: **First** |
| **Student:** | |
| "Mohammad Saleh" Issam Dwikat | Sunday/Tuesday : 9.30 – 11.00 |



**An-Najah National University**

**Faculty of Engineering and IT**

**جامعة النجاح الوطنية**

**كلية الهندسة وتكنولوجيا المعلومات**

**Programming language:** Python

**Pressures:**

1. Convert colored image to gray scale image
2. Apply noise removal on the image by using **fastNlMeansDenoising**
3. **Threshold** the image
4. Detect image edges using **Canny** method
5. Then find the **countors** using **findCountors** method
6. Then used **boundingRect** to find the position of shape and the size of window that contains it
7. Then we used **arcLength** method to detect the shape of **countors** that we found it previously then approximated the curve using **approxPolyDB** method
8. Finally, we draw the name of the shape depending on **contour** **approximation** using **putText** method on the position detected shape by using the result of step number 6.

The link of the test cases used in the source code:

https://drive.google.com/drive/folders/1UExR9ohAdutC0vXscmNyLvZwxiOAr1Kg?usp=sharing