

INTRODUCTION
TO
IMAGE PROCESSING

EEE410

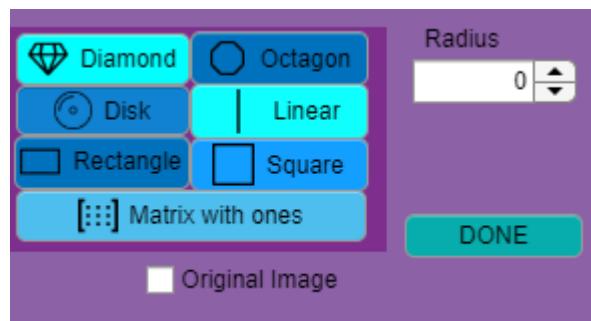
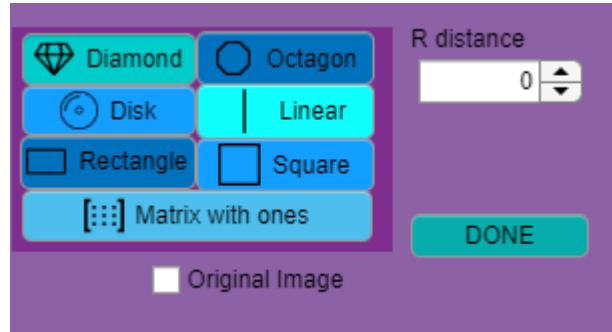
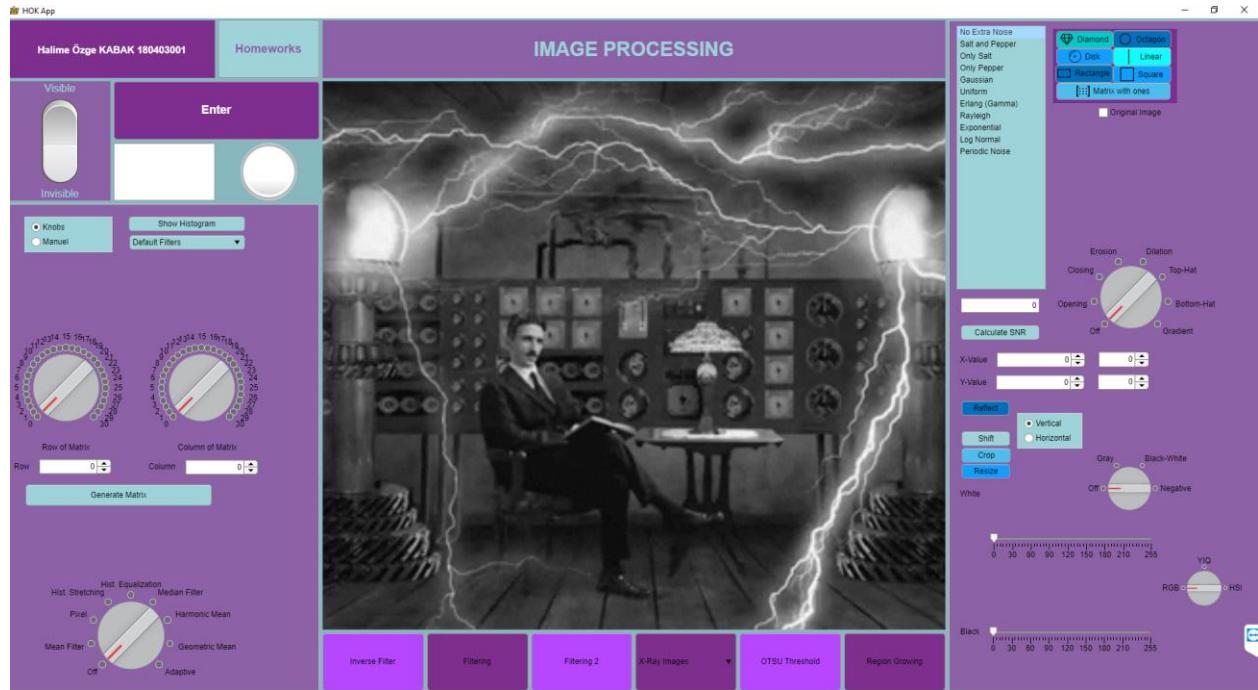
HOMEWORK 9

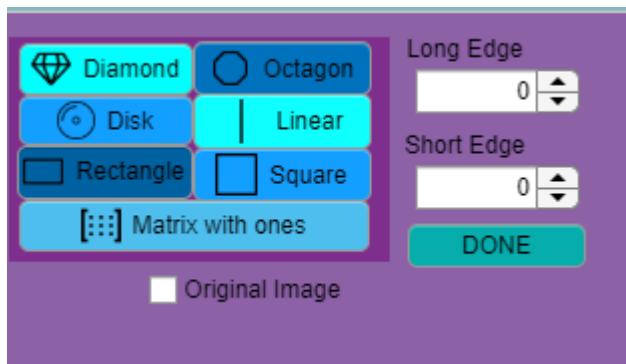
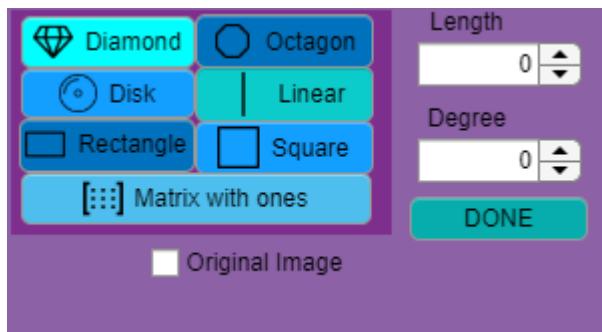
HALİME ÖZGE KABAK

180403001

◆ MATLAB

- ❖ This is my graphical user interface in MATLAB.





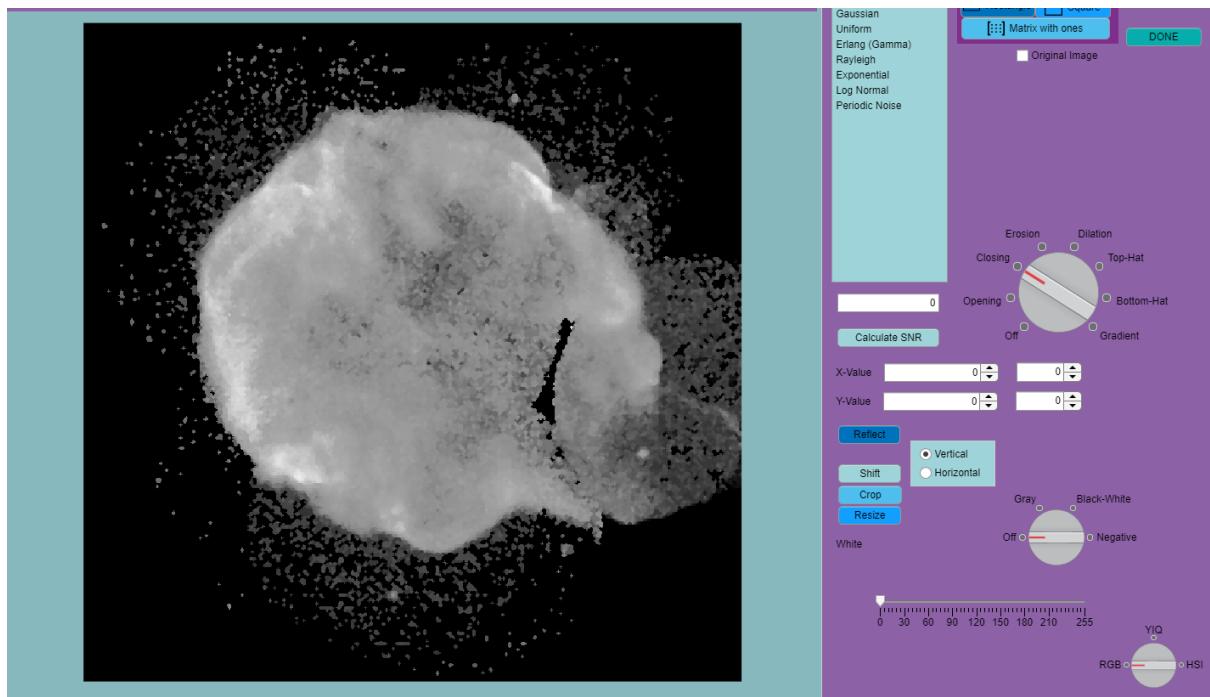
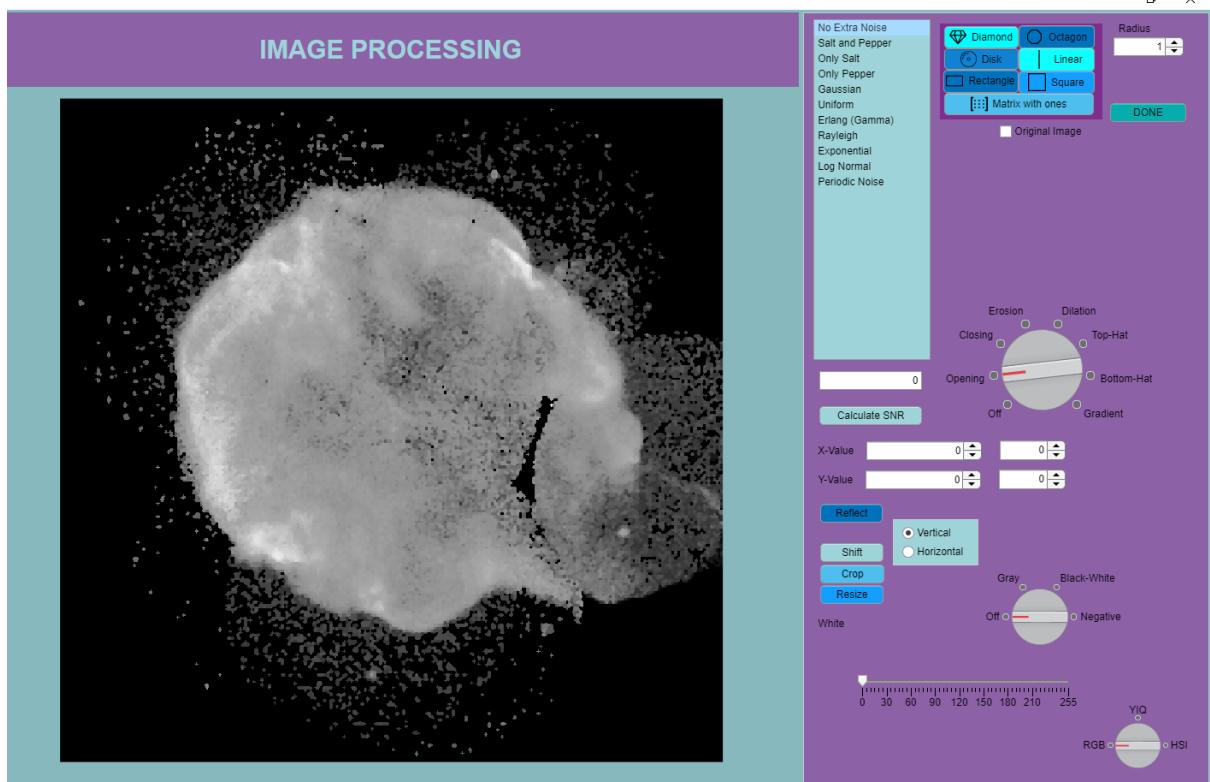
PART 1:

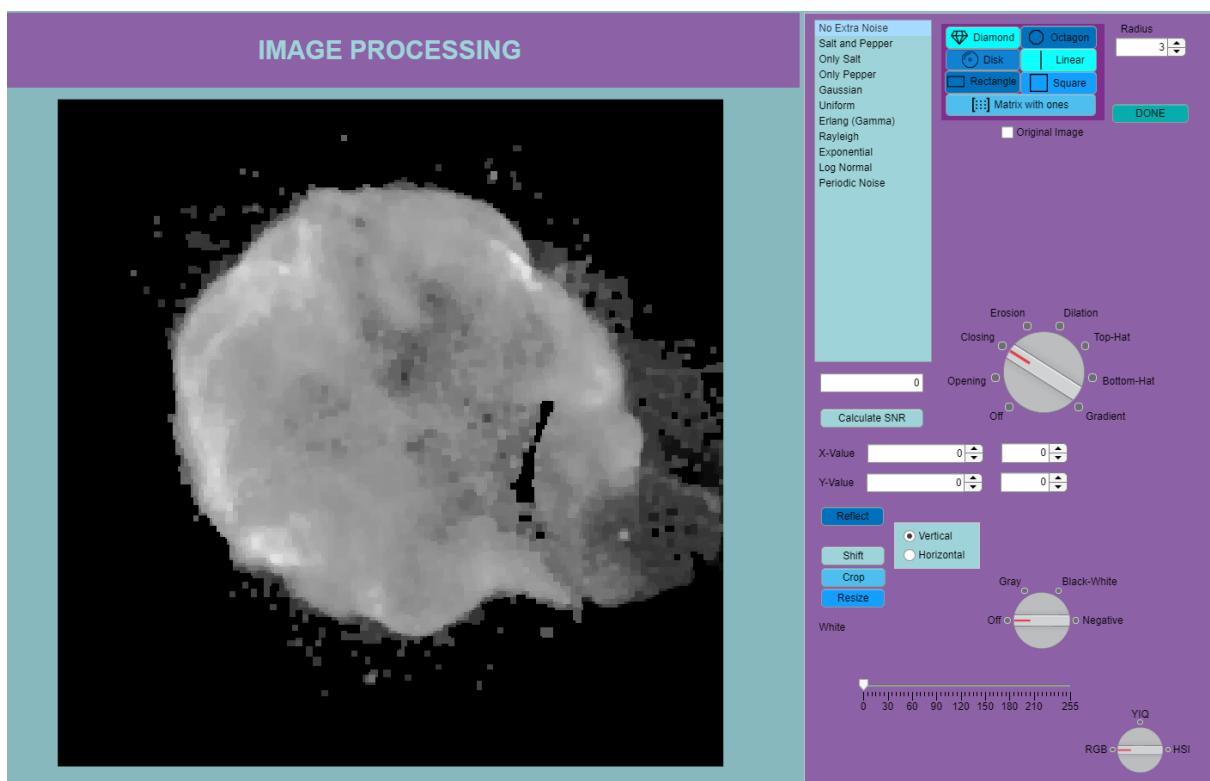
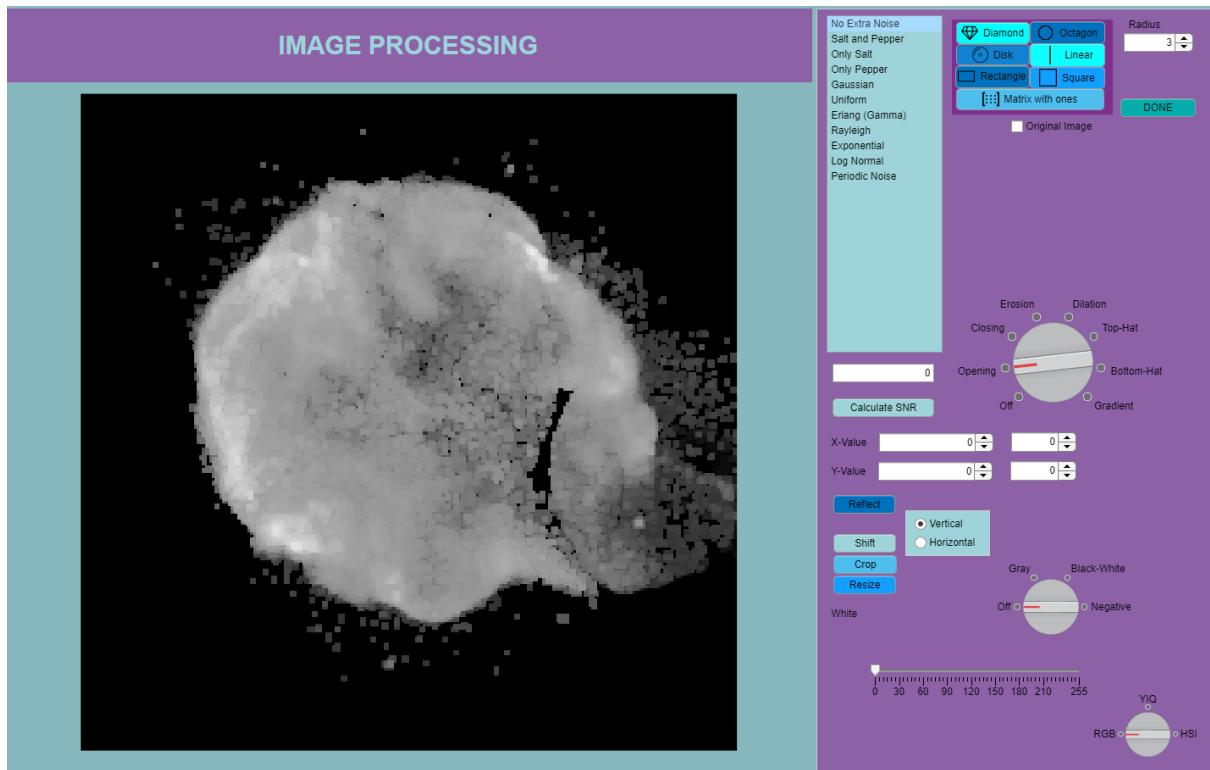
IMAGE PROCESSING

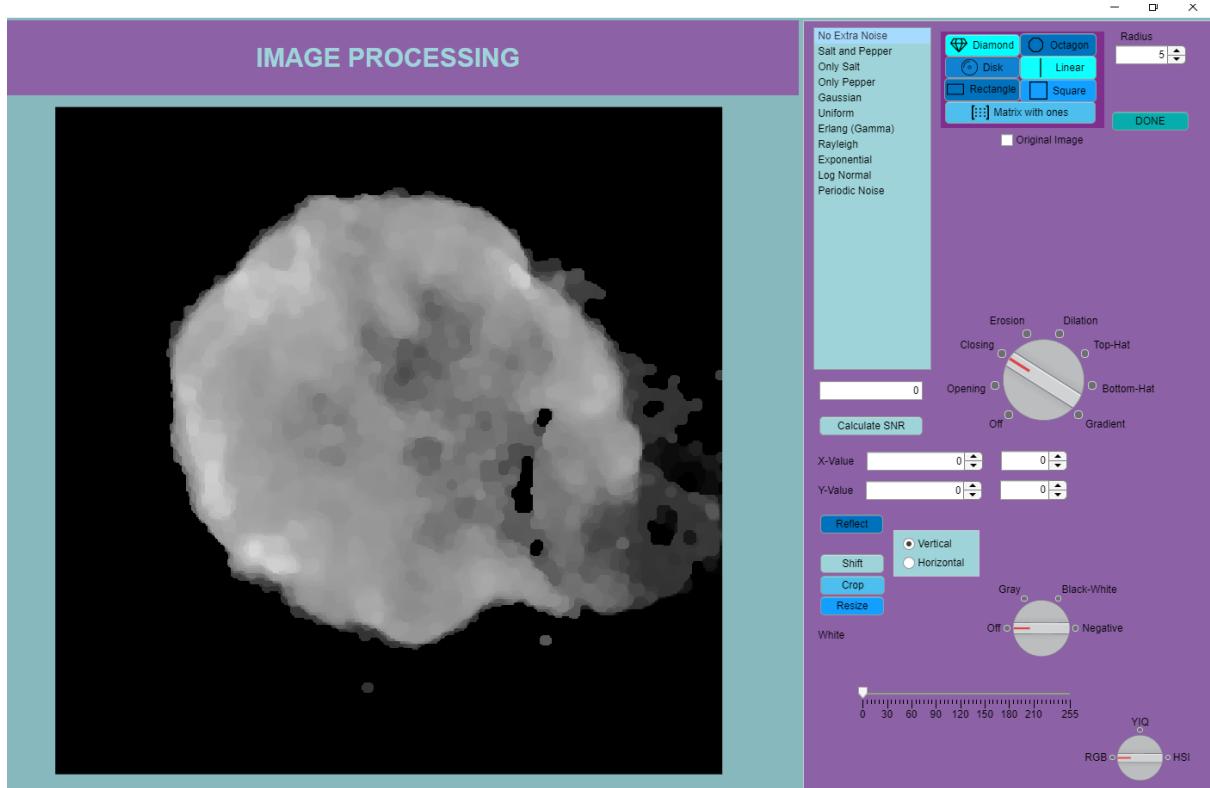
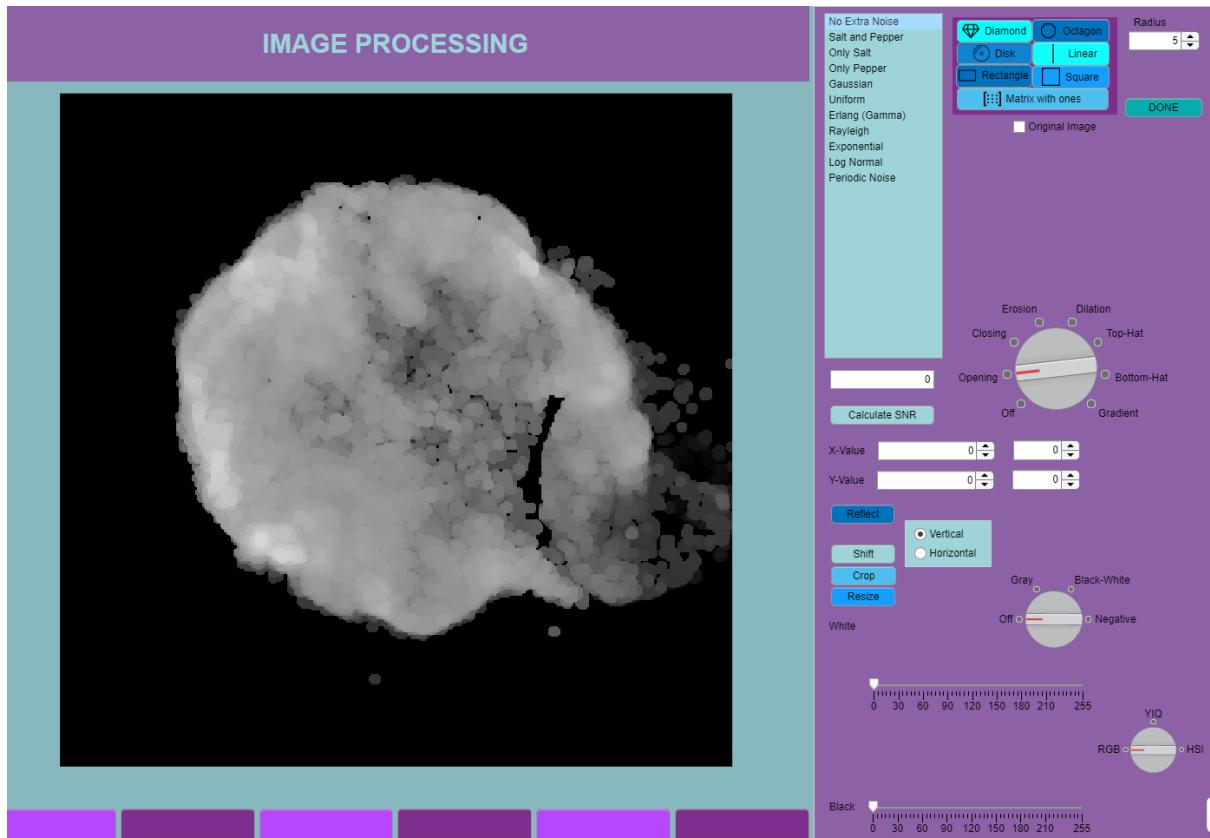
The main area displays a grayscale image of a brain scan, which is very noisy and appears to be a CT or MRI scan. Below this image are several buttons: Inverse Filter, Filtering, Filtering 2, X-Ray Images (with a dropdown arrow), OTSU Threshold, and Region Growing.

Processing Options:

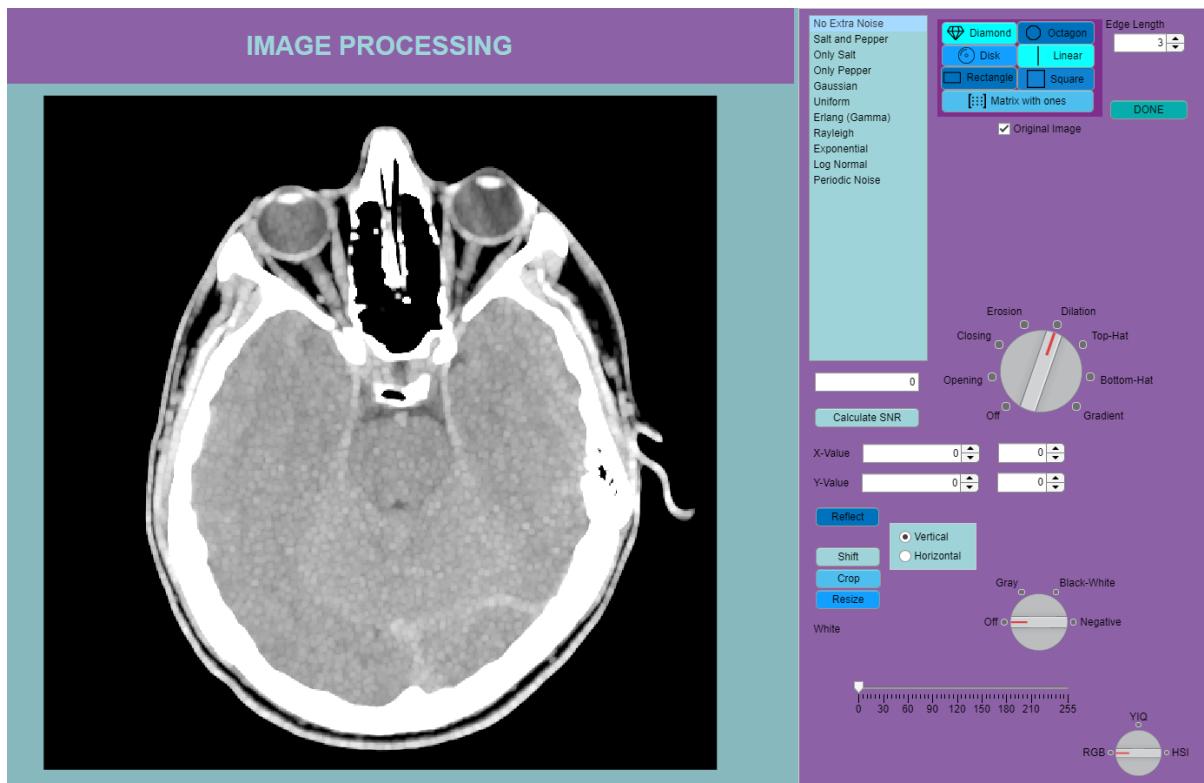
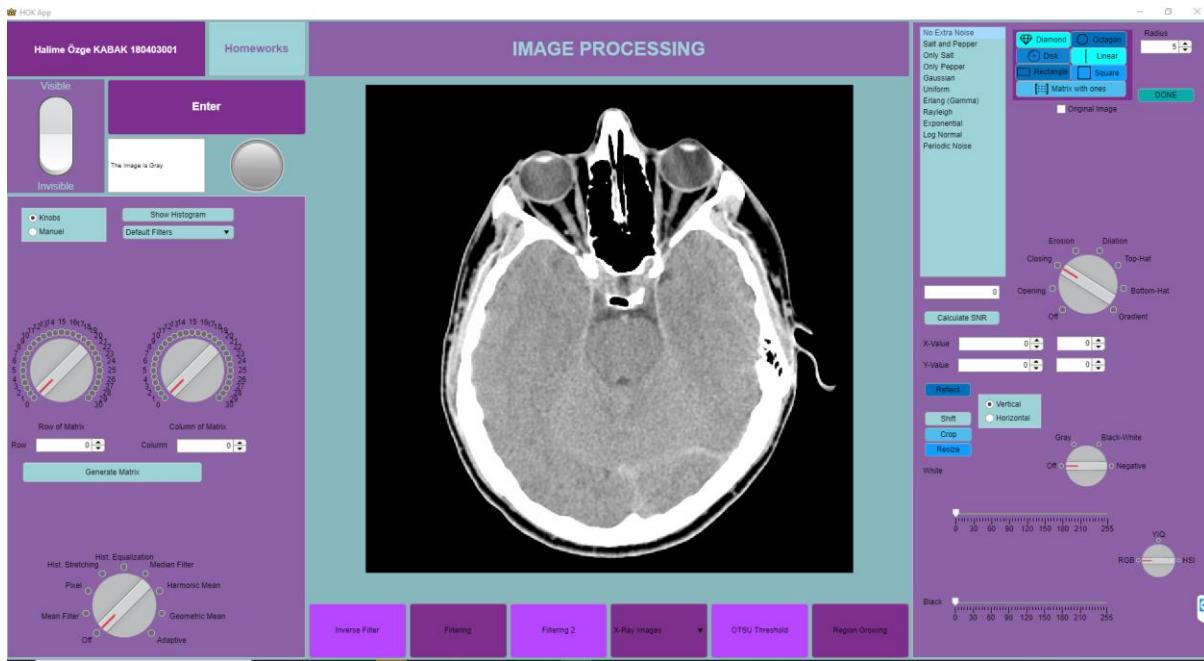
- Noise Removal:** A list of noise types includes: No Extra Noise, Salt and Pepper, Only Salt, Only Pepper, Gaussian, Uniform, Erlang (Gamma), Rayleigh, Exponential, Log Normal, and Periodic Noise.
- Morphological Operations:** Includes Erosion, Dilation, Closing, Top-Hat, Bottom-Hat, and Gradient.
- Image Transformations:** Includes Opening, Off, Reflect (Vertical or Horizontal), Shift, Crop, and Resize.
- Color Space Conversion:** Includes Gray, Black-White, Off, Negative, RGB, YIQ, and HSI.
- Thresholding:** Includes a slider for 'Calculate SNR' and sliders for 'X-Value' and 'Y-Value' ranging from 0 to 255.
- Region Growing:** Includes a slider for 'Black' ranging from 0 to 255.

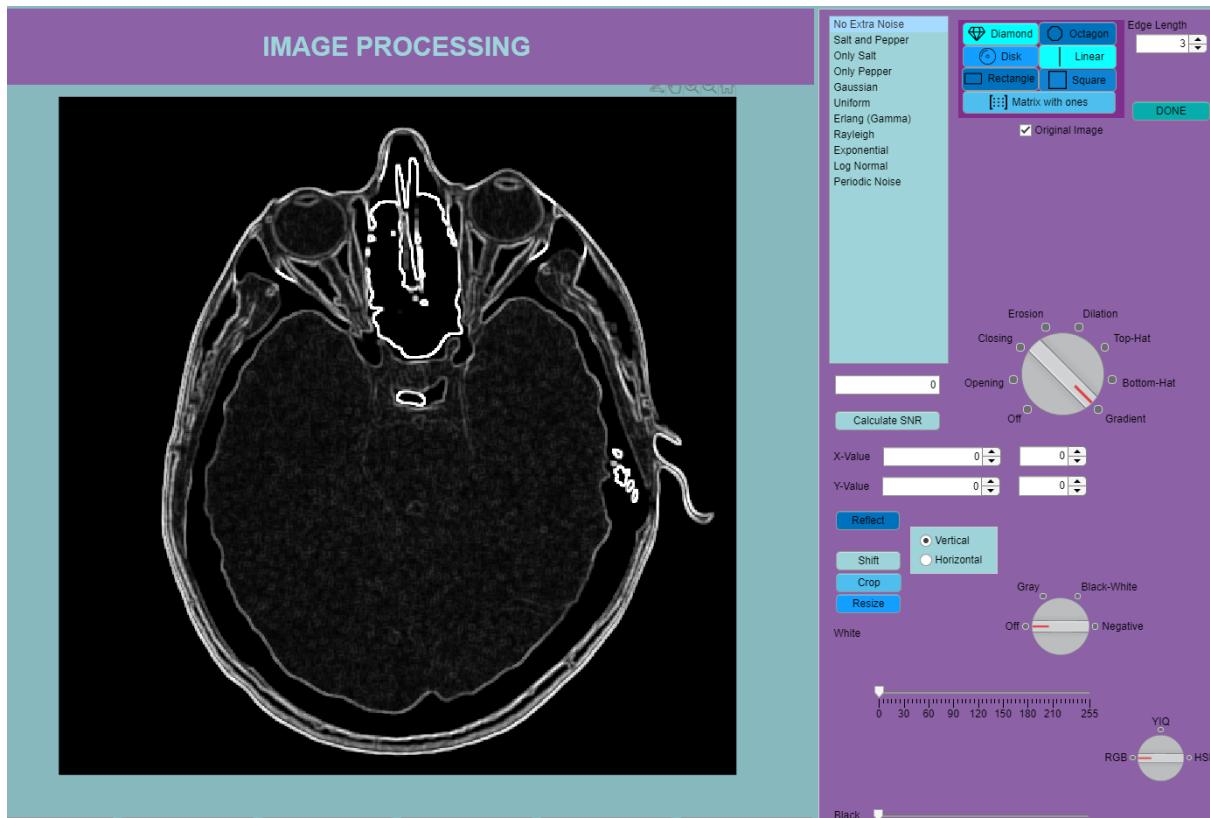
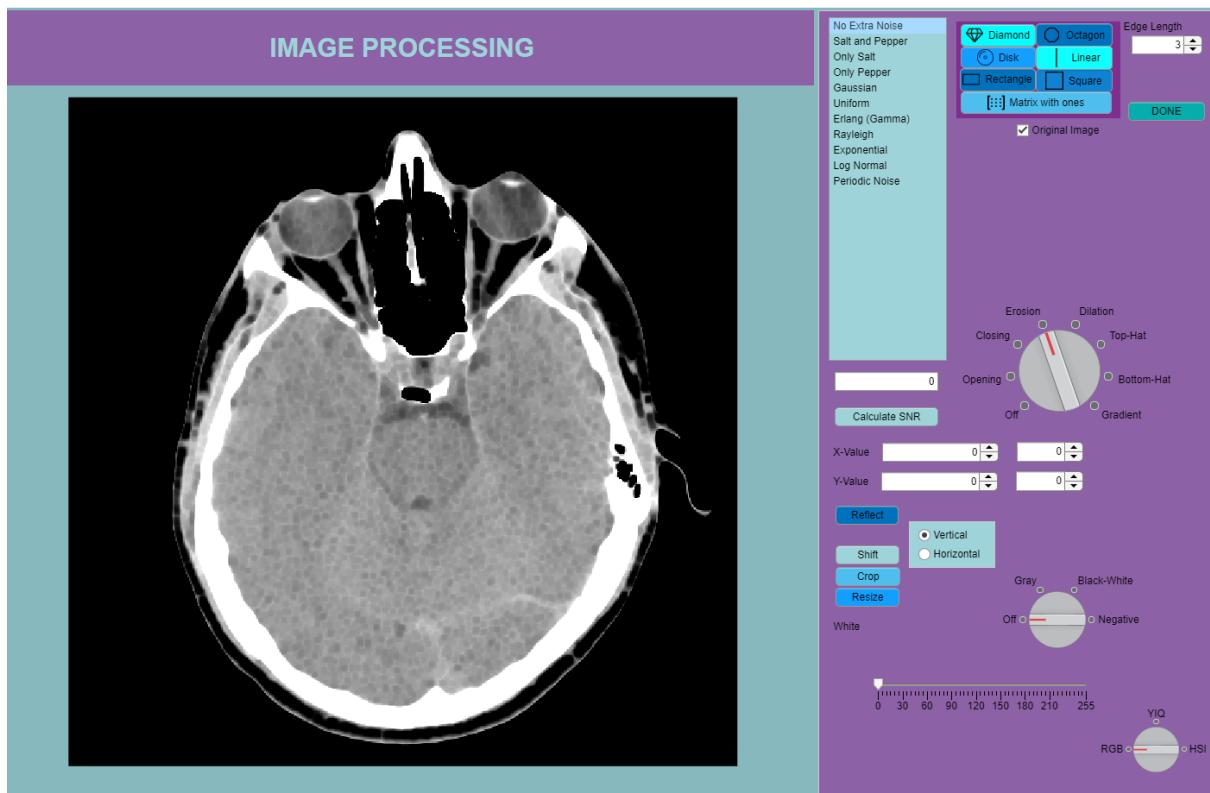






PART 2:





PART 3:

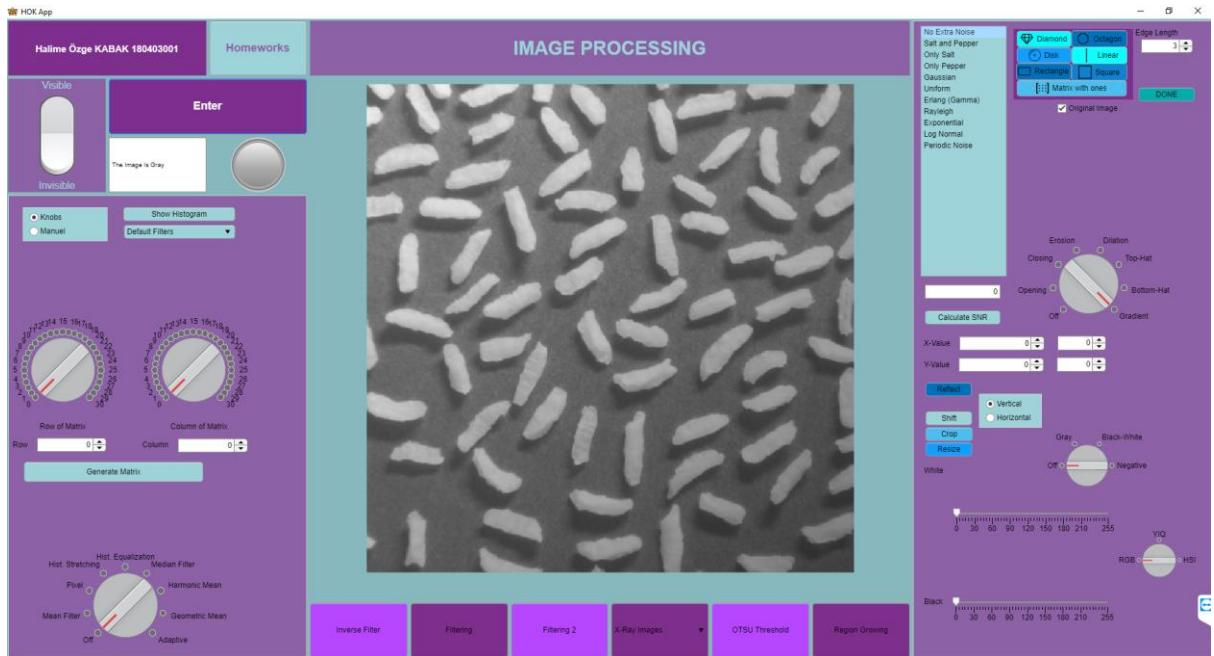
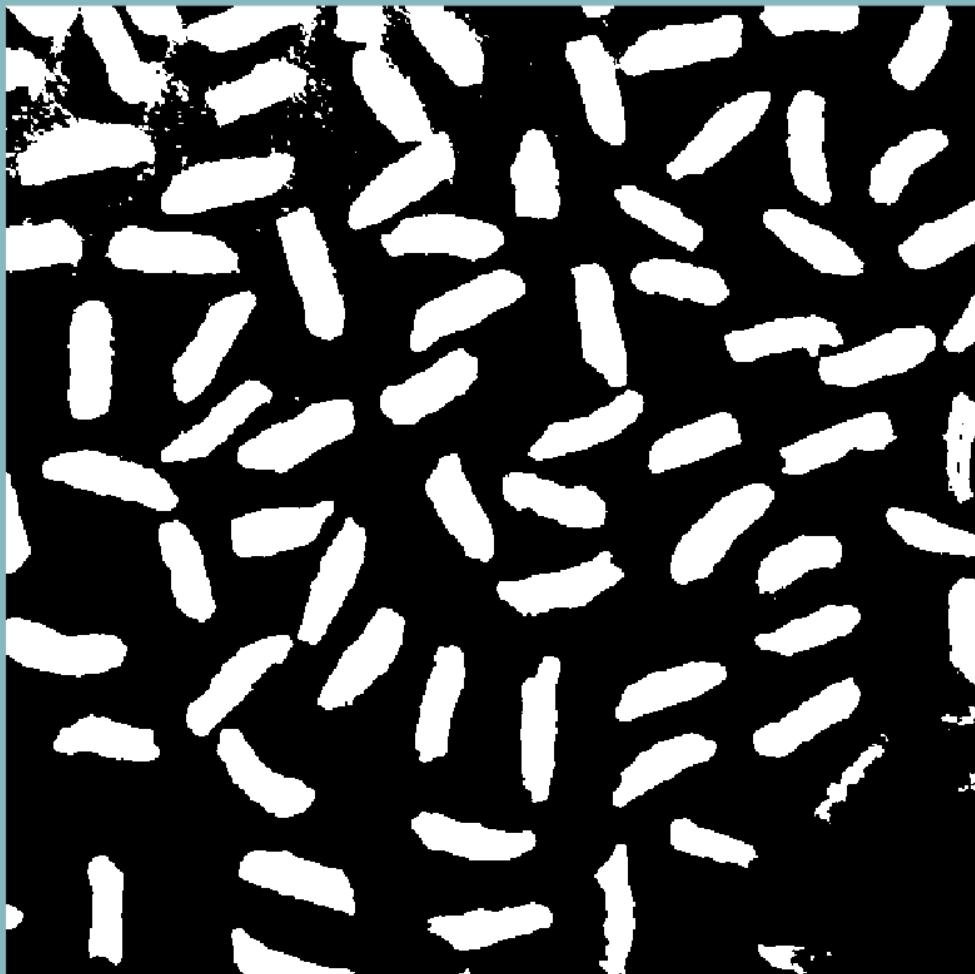


IMAGE PROCESSING



Inverse Filter

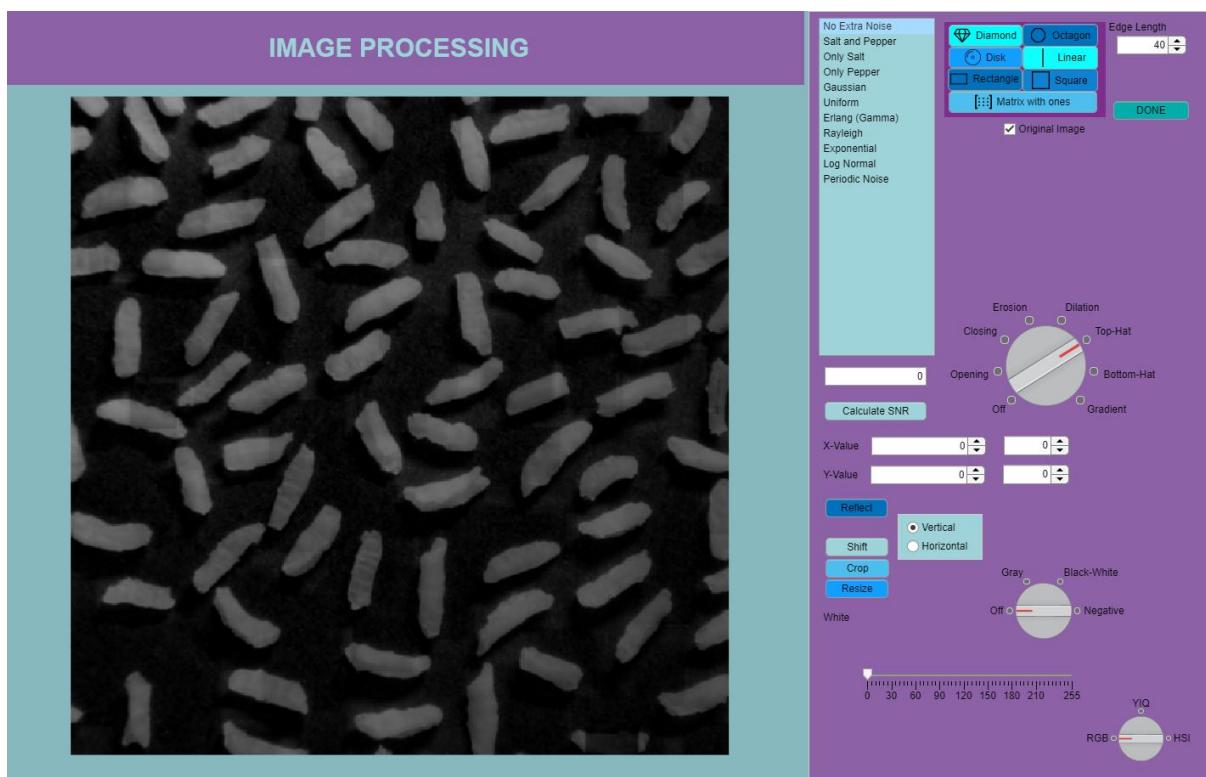
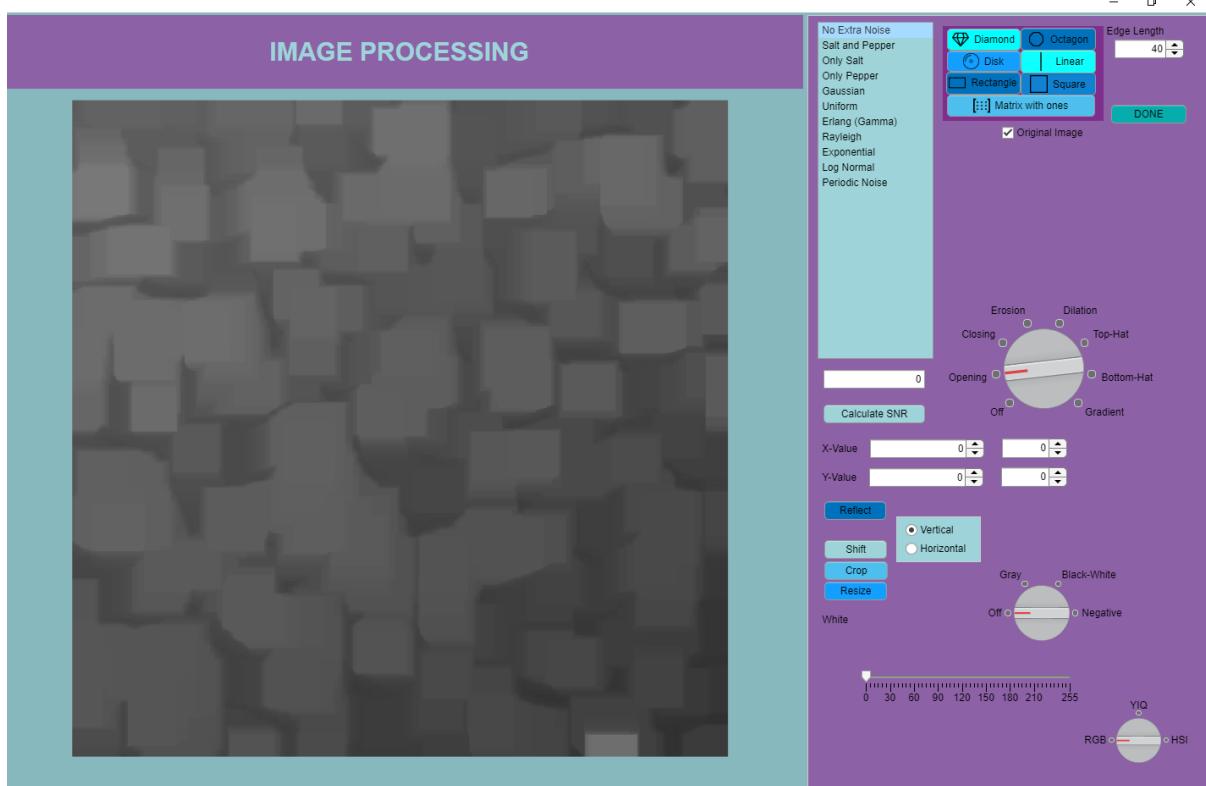
Filtering

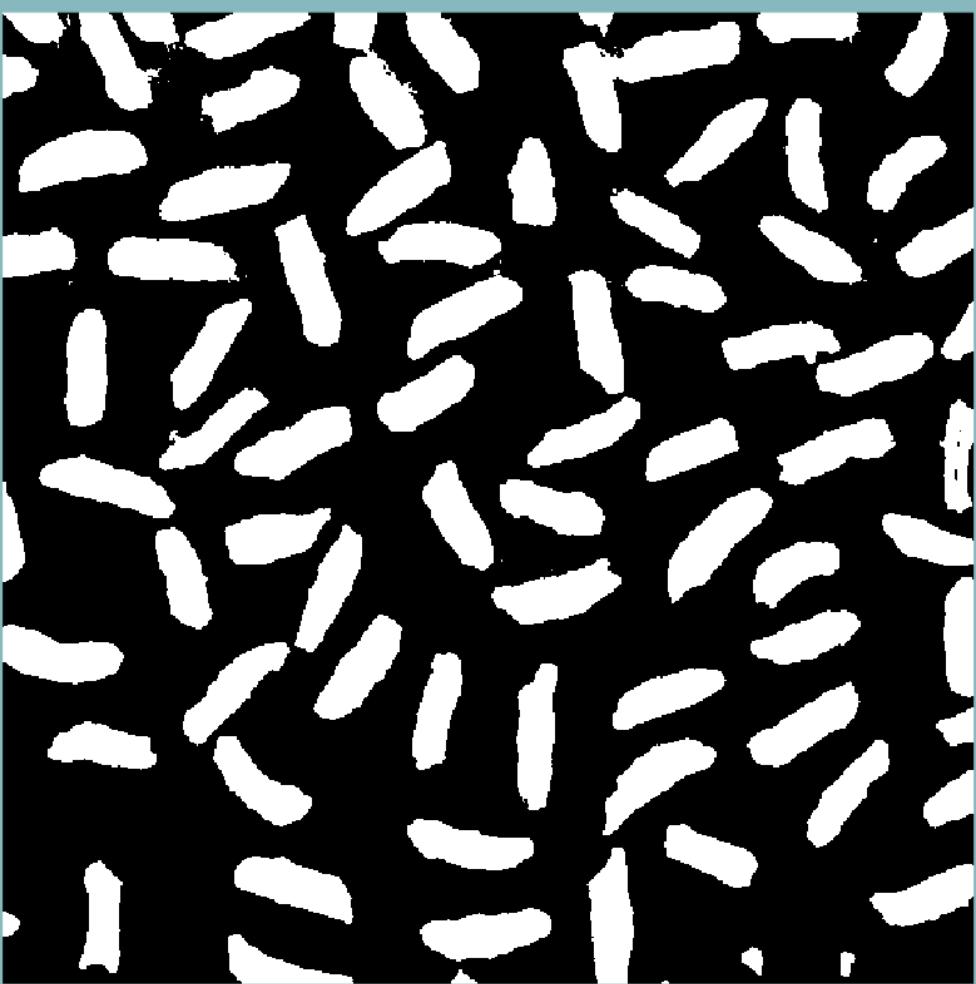
Filtering 2

X-Ray Images

OTSU Threshold

Region Growing





Inverse Filter

Filtering

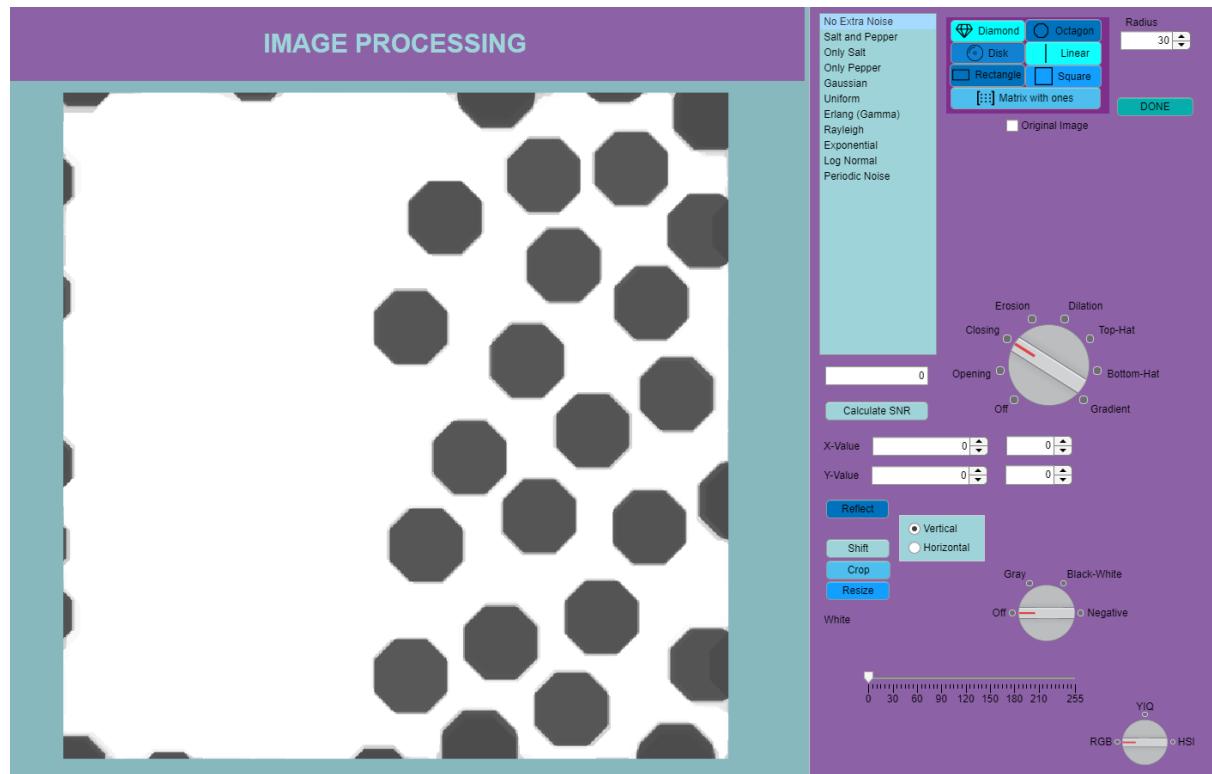
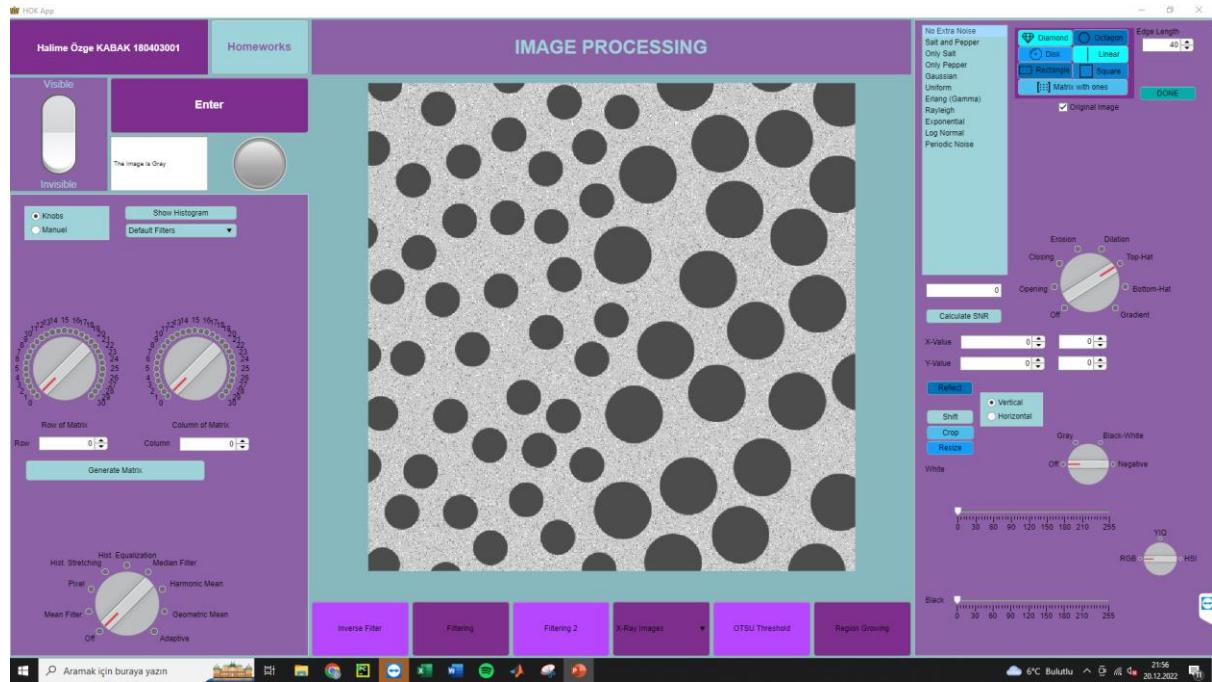
Filtering 2

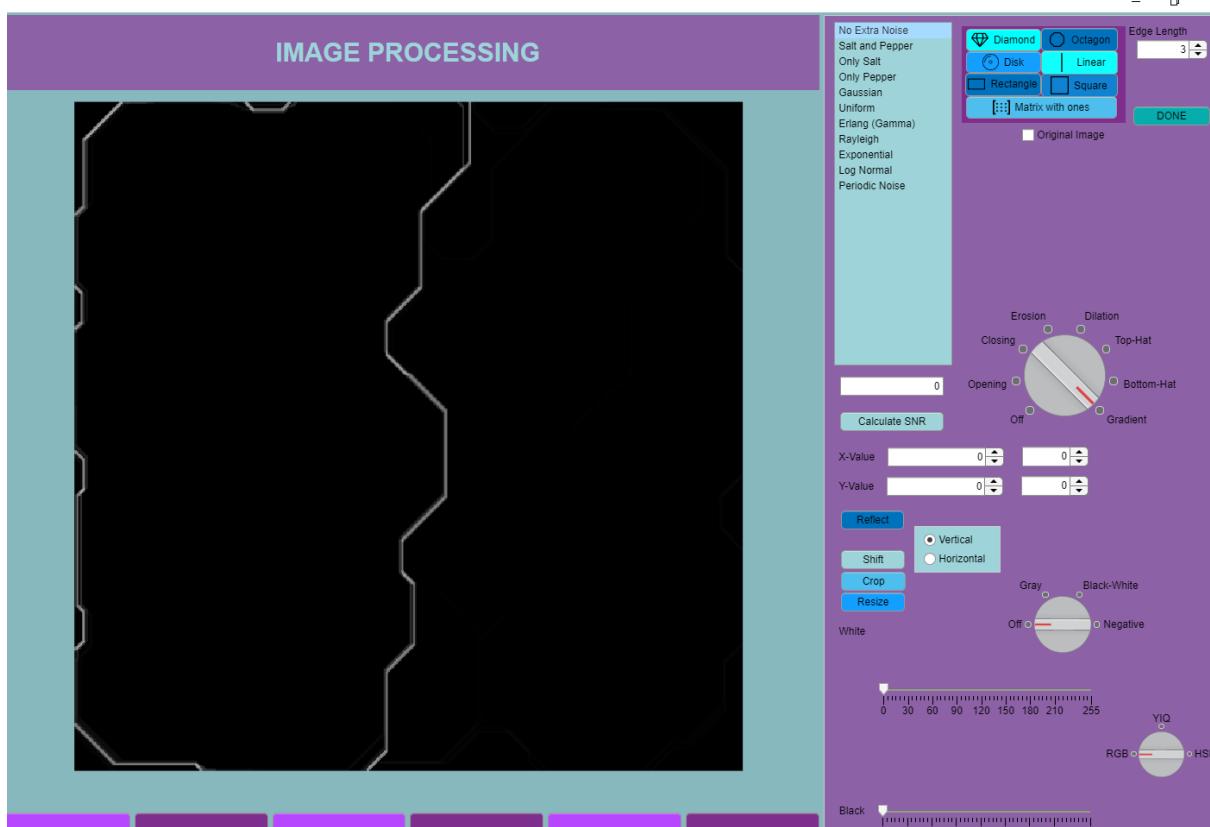
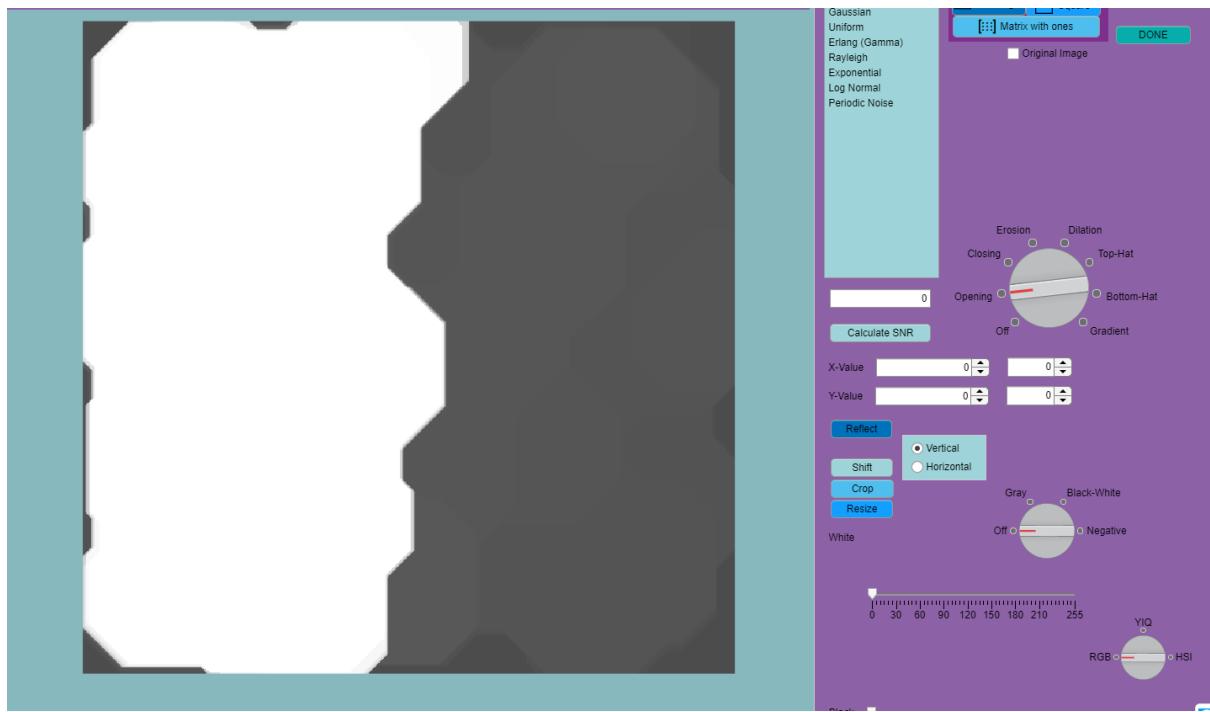
X-Ray Images

OTSU Threshold

Region Growing

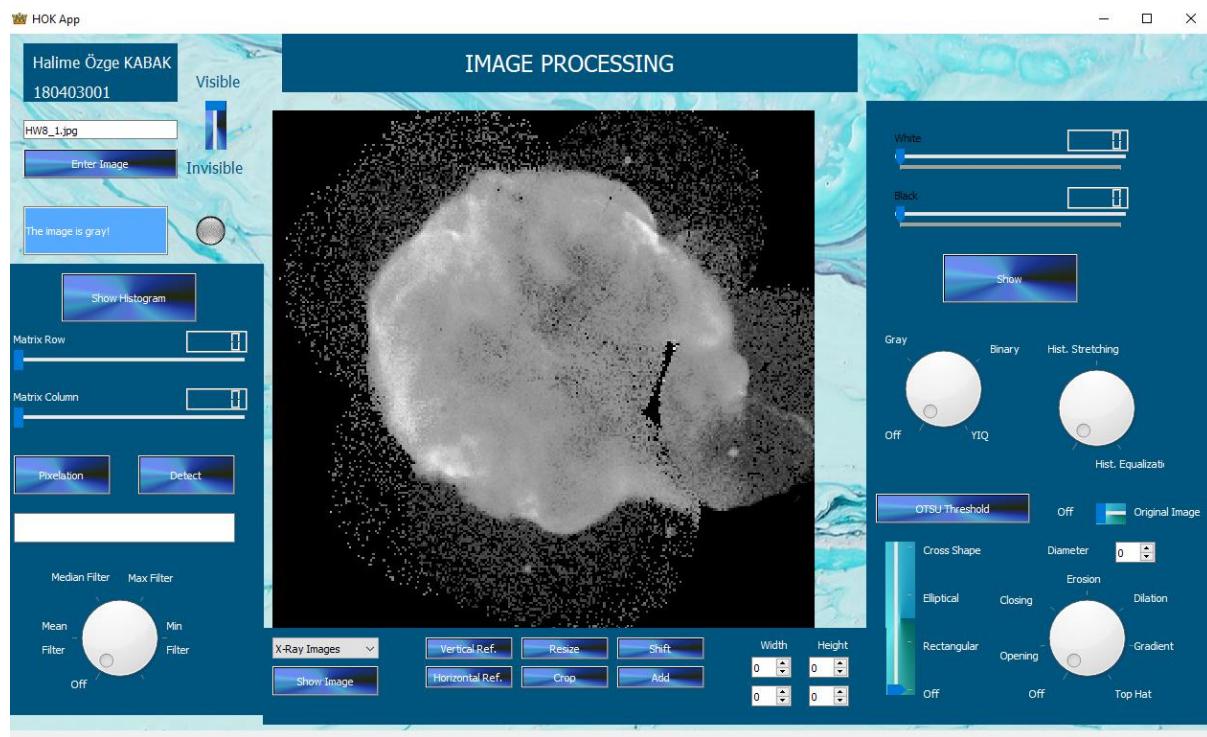
PART 4:

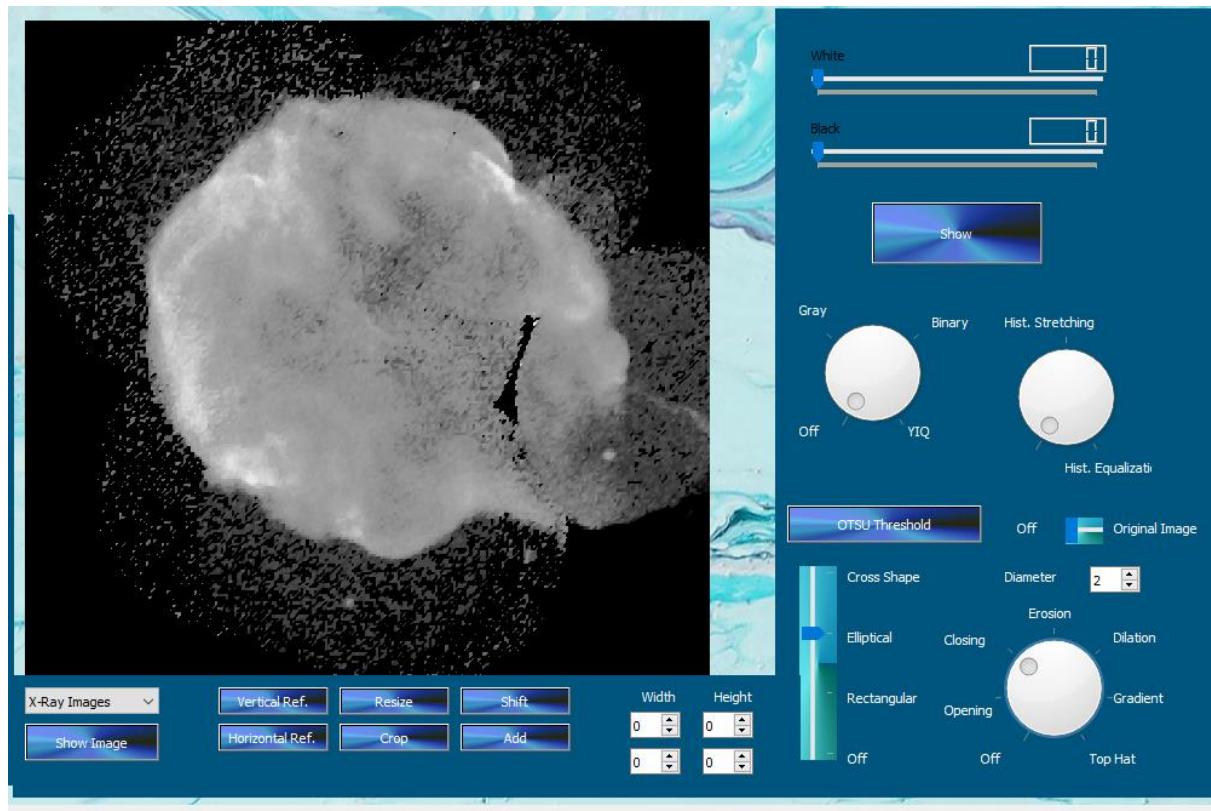
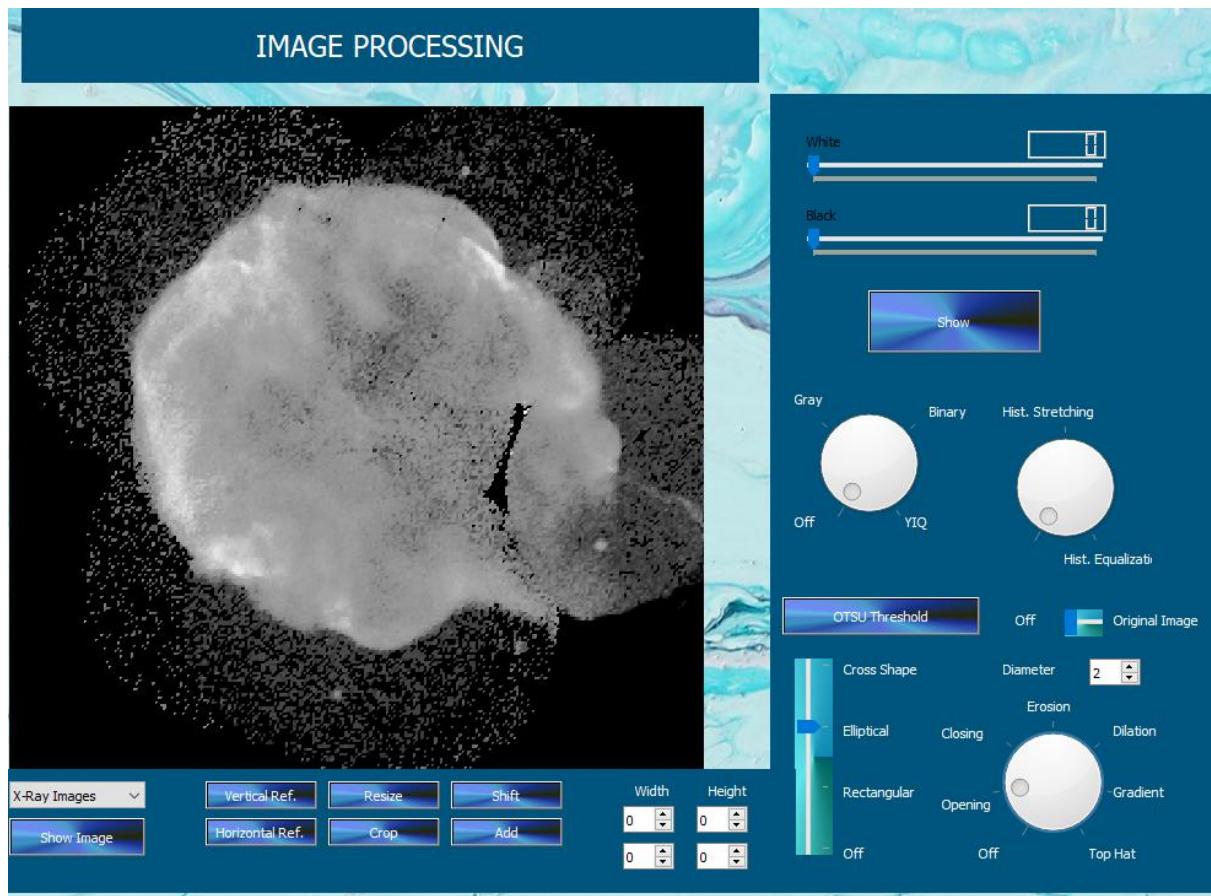


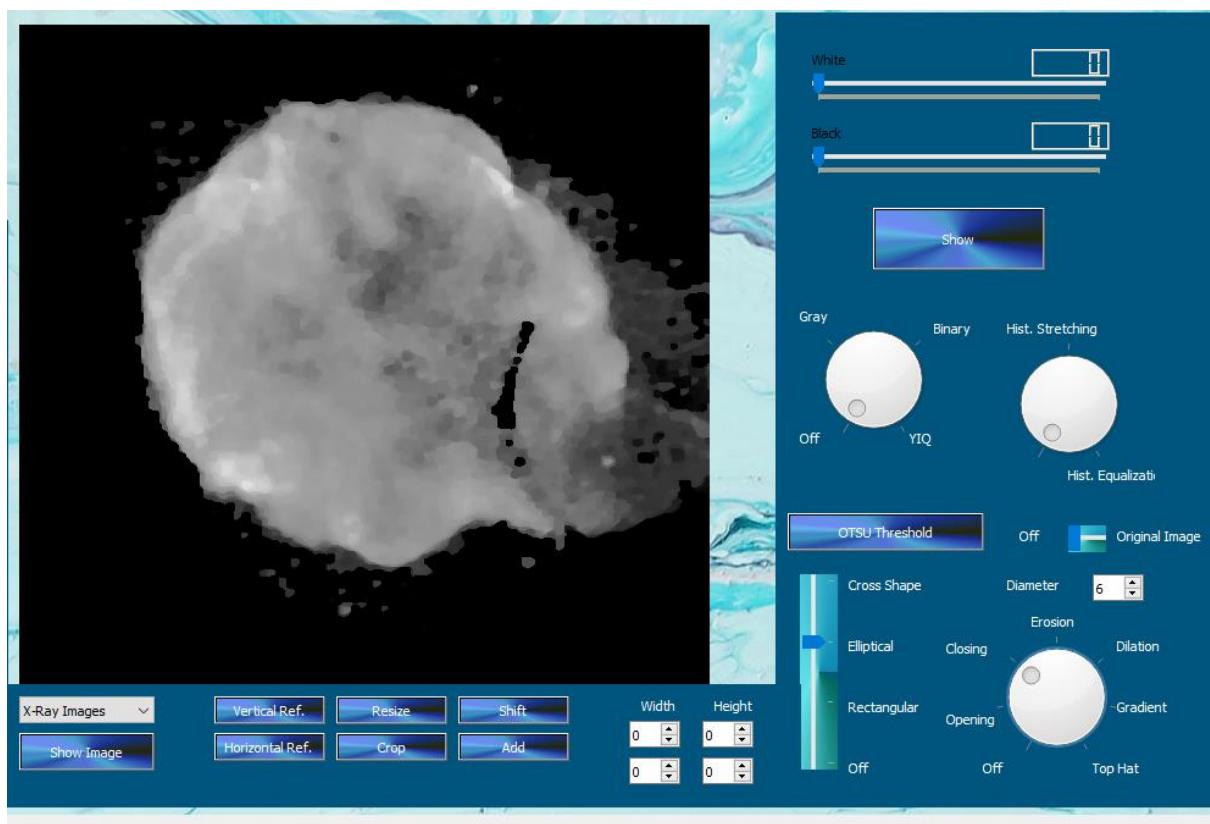
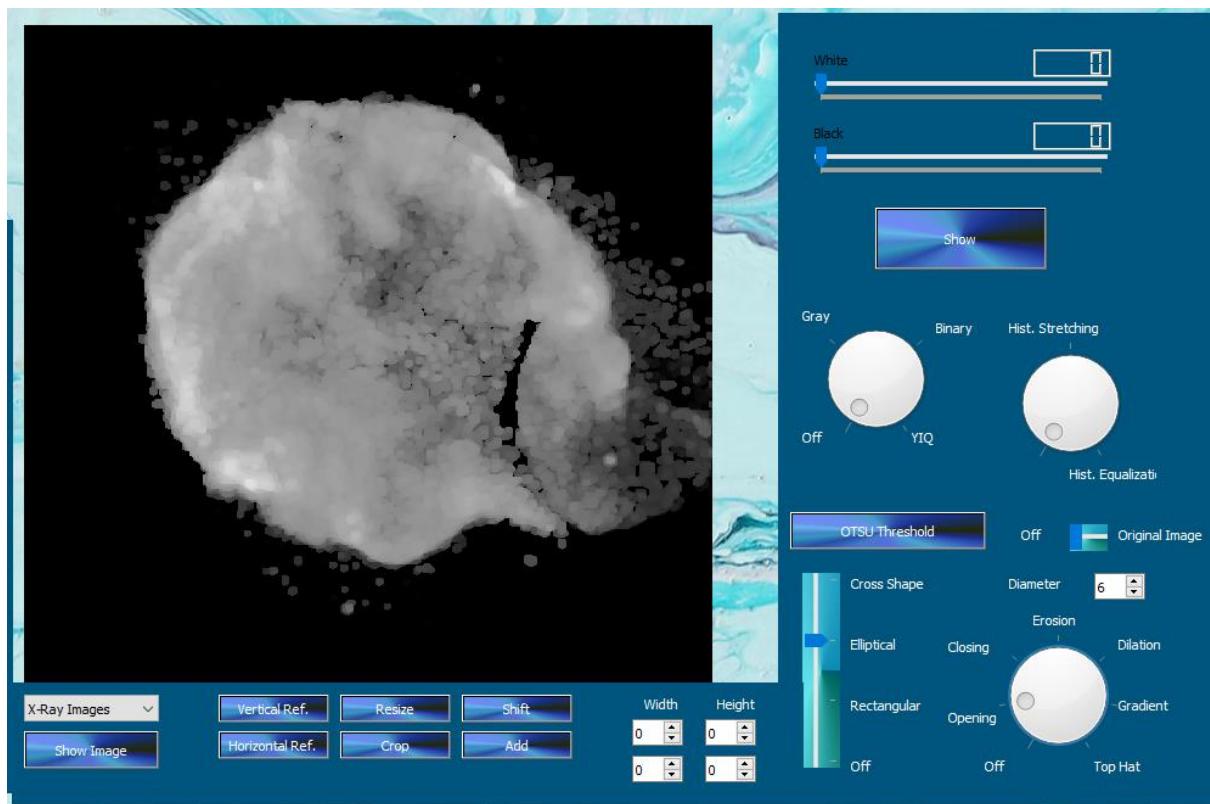


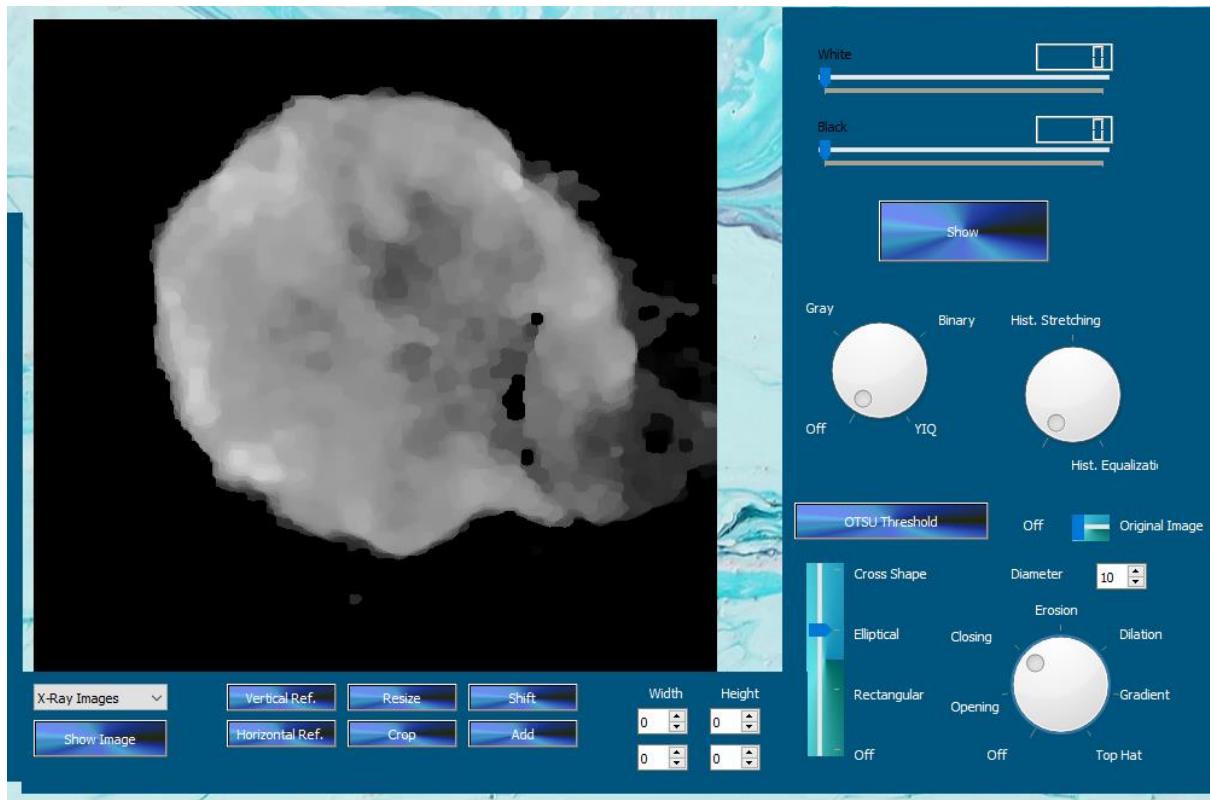
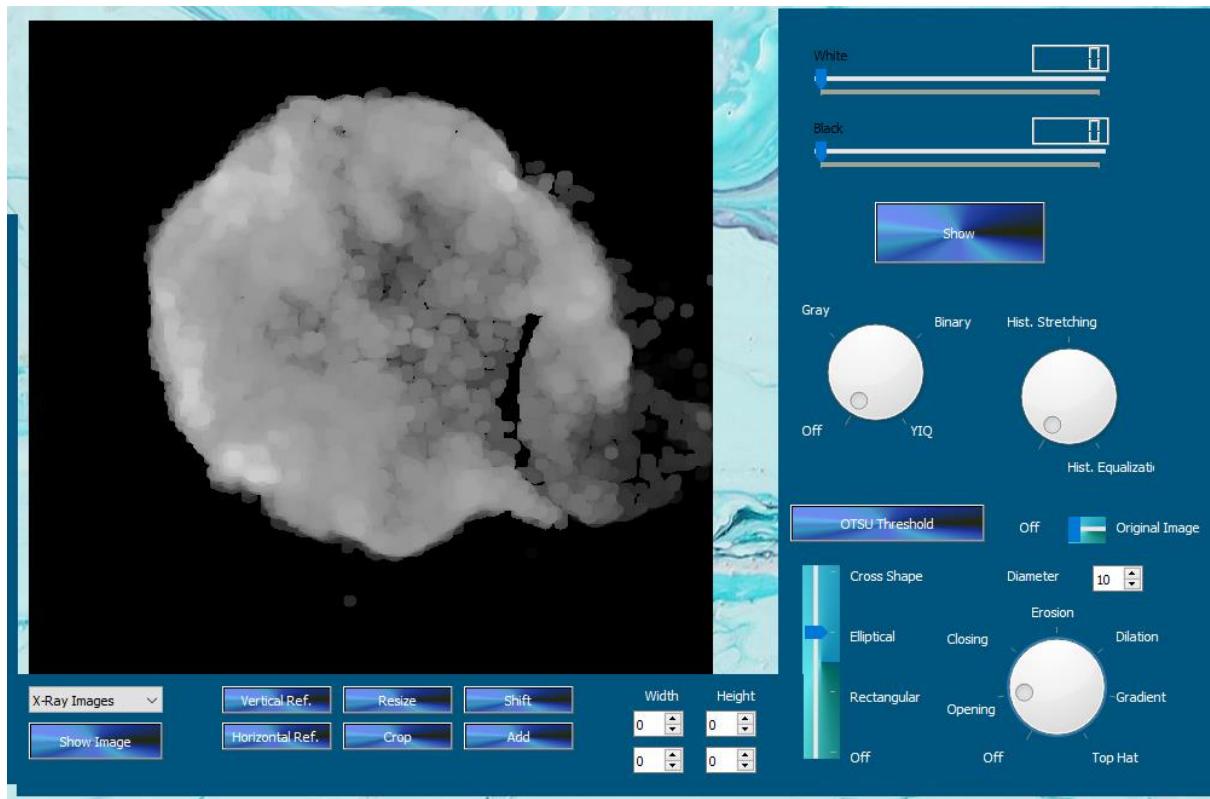
◆ PyQt:

PART 1:









PART 2:

