

Faculty of electronic engineering

Image processing

Date : 11 Jul 2021

To instructor : Dr Mohamed Berbar

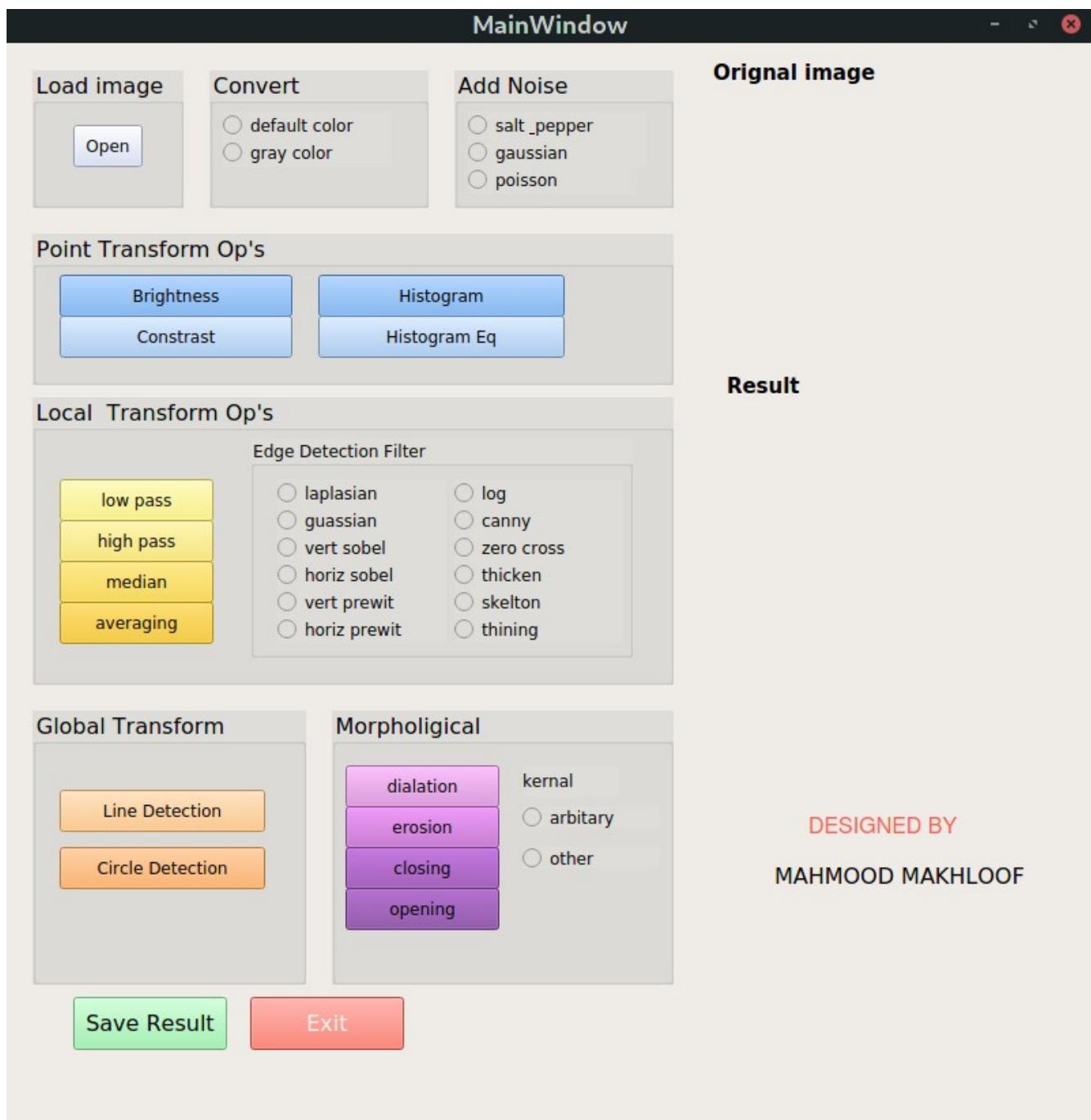
Submitted by : Mahmood Abbas Makhloof / Sec-3

Programming Assignment

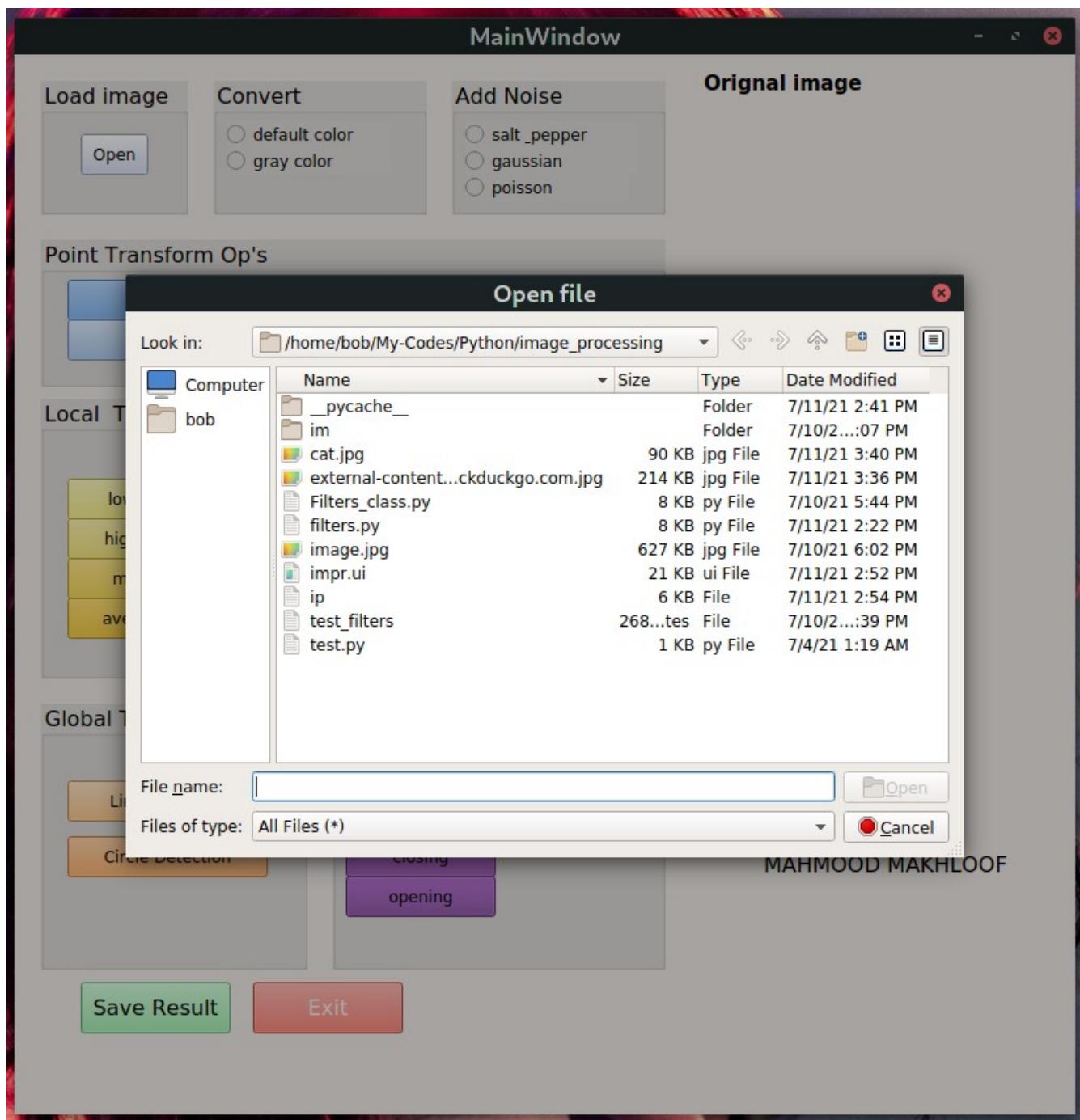
Intro

This project for applying filters (masks) on selected image , built with python , openCv framework and GUI with PyQt5

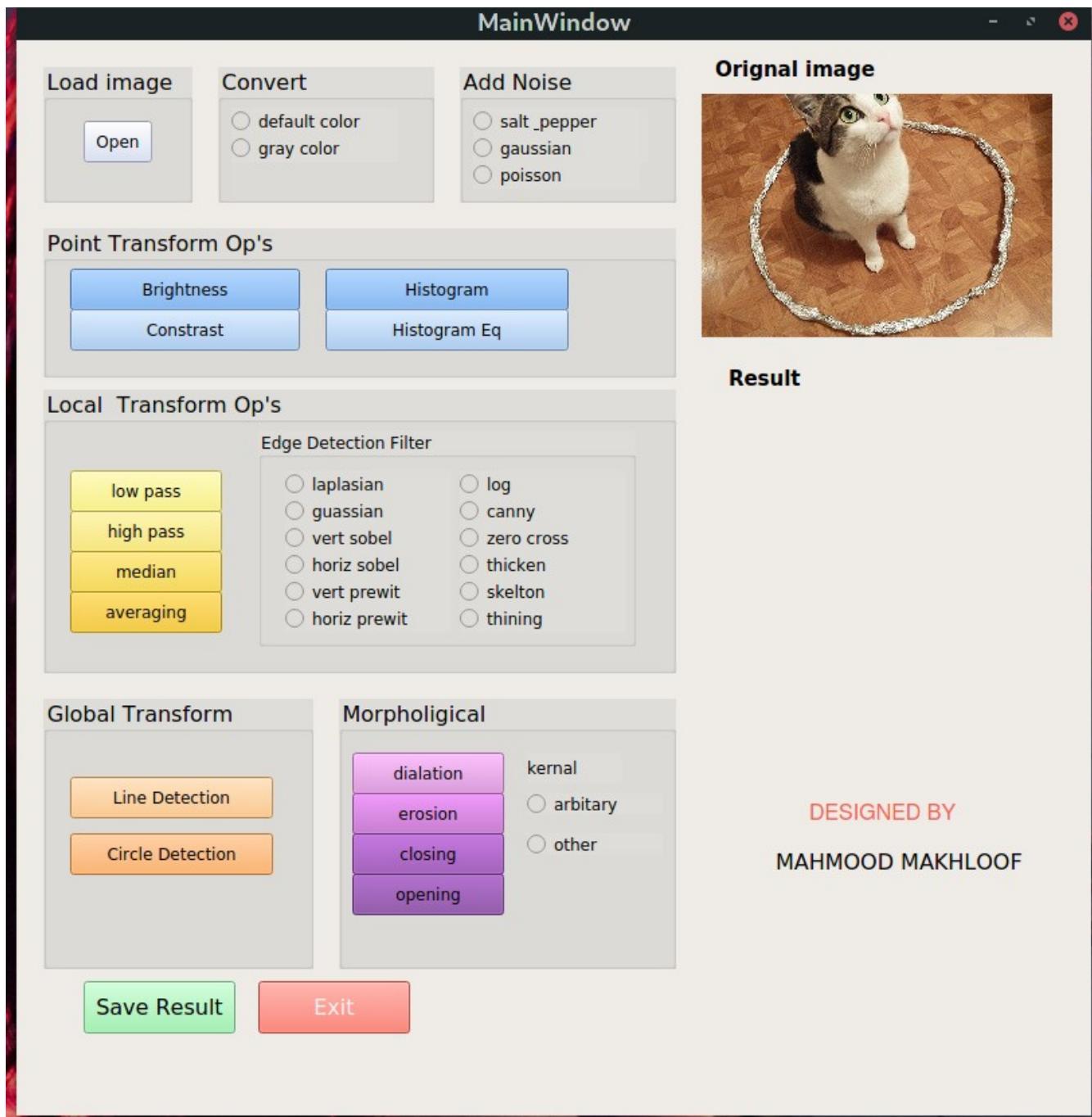
1- this is main window



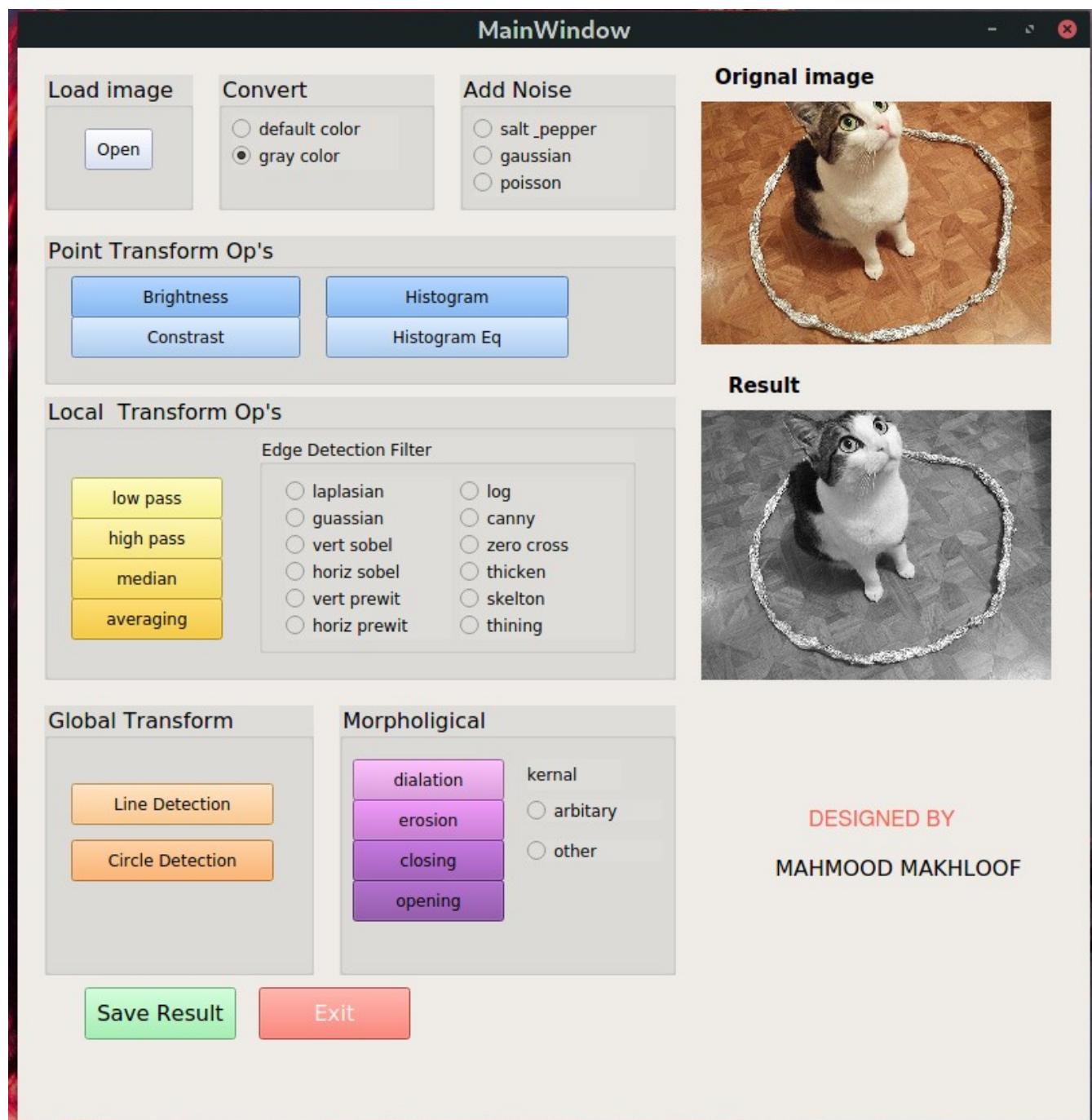
2- when open button is clicked , the file browser opened and let you to select an image



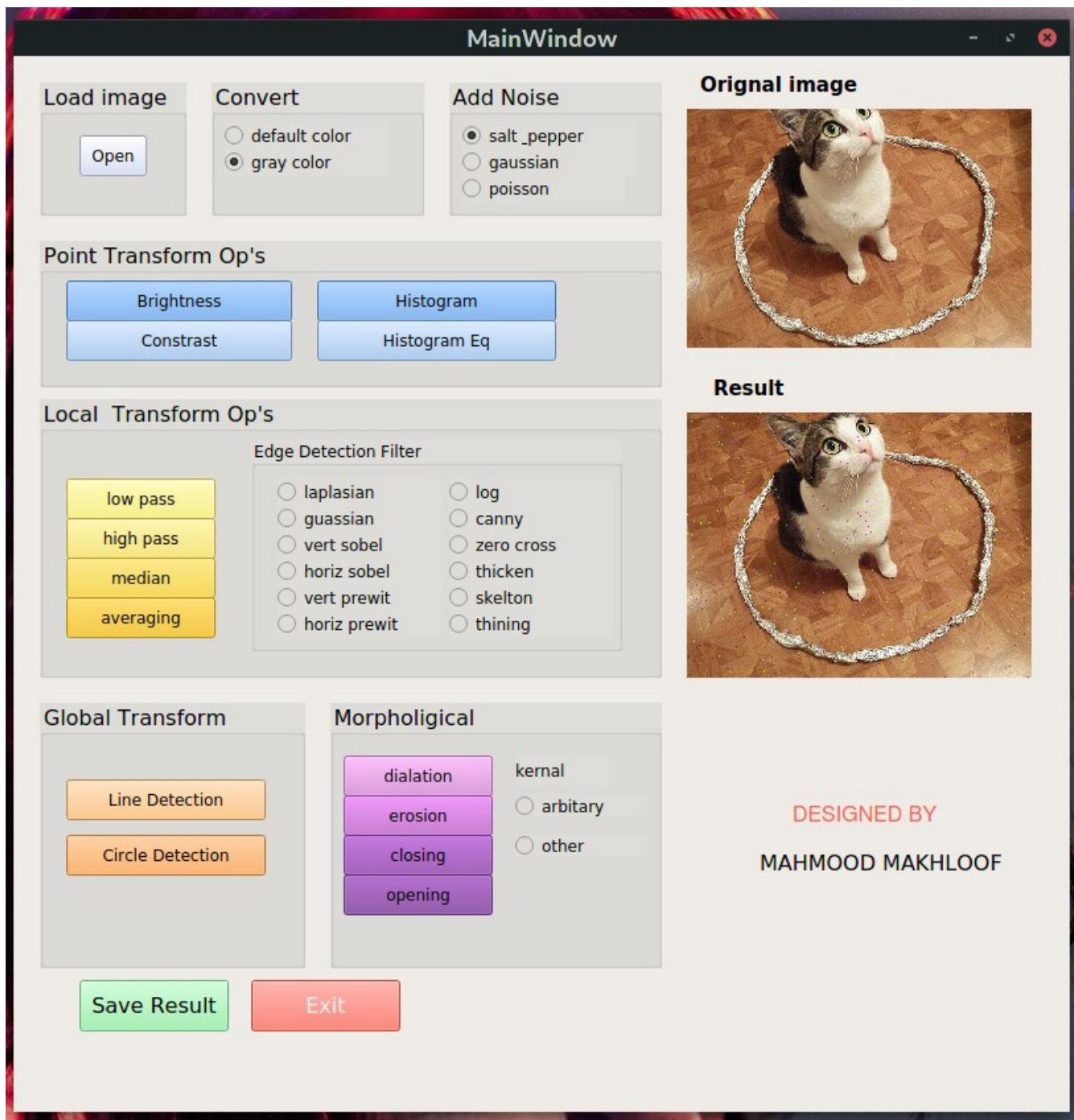
3- after you selected an image , it displayed



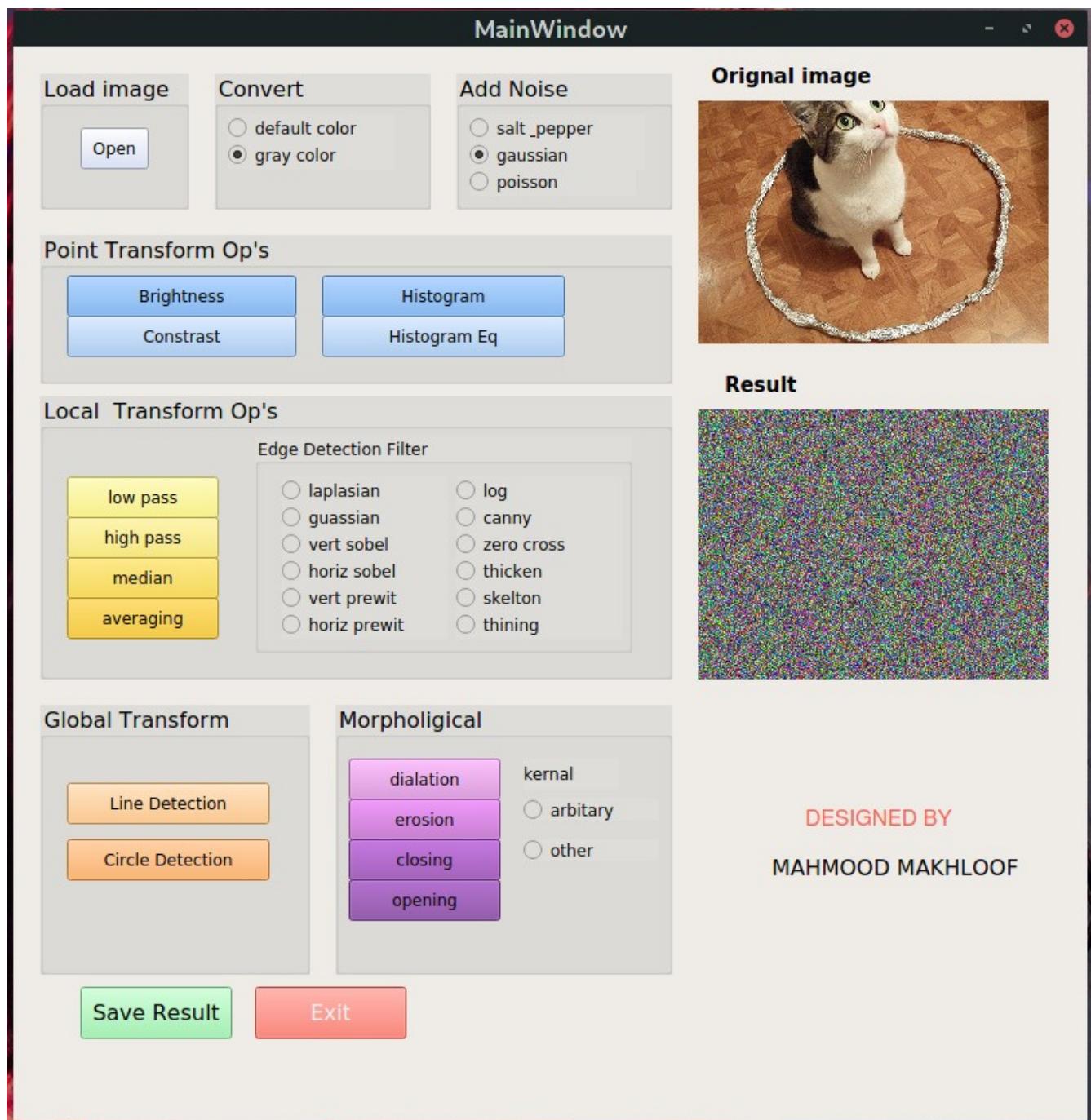
4- After gray color effect



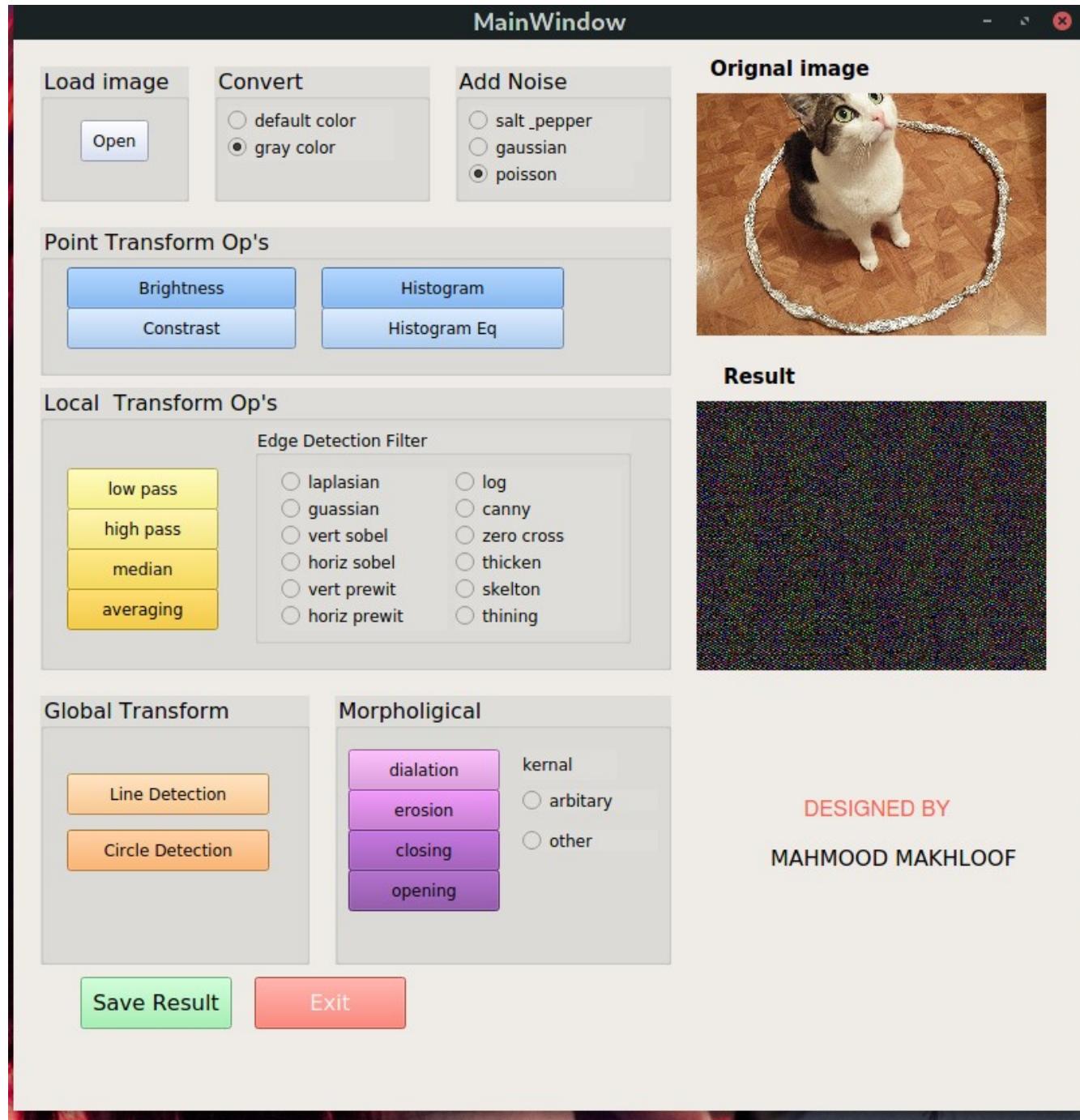
5- after applying noise from salt pepper type



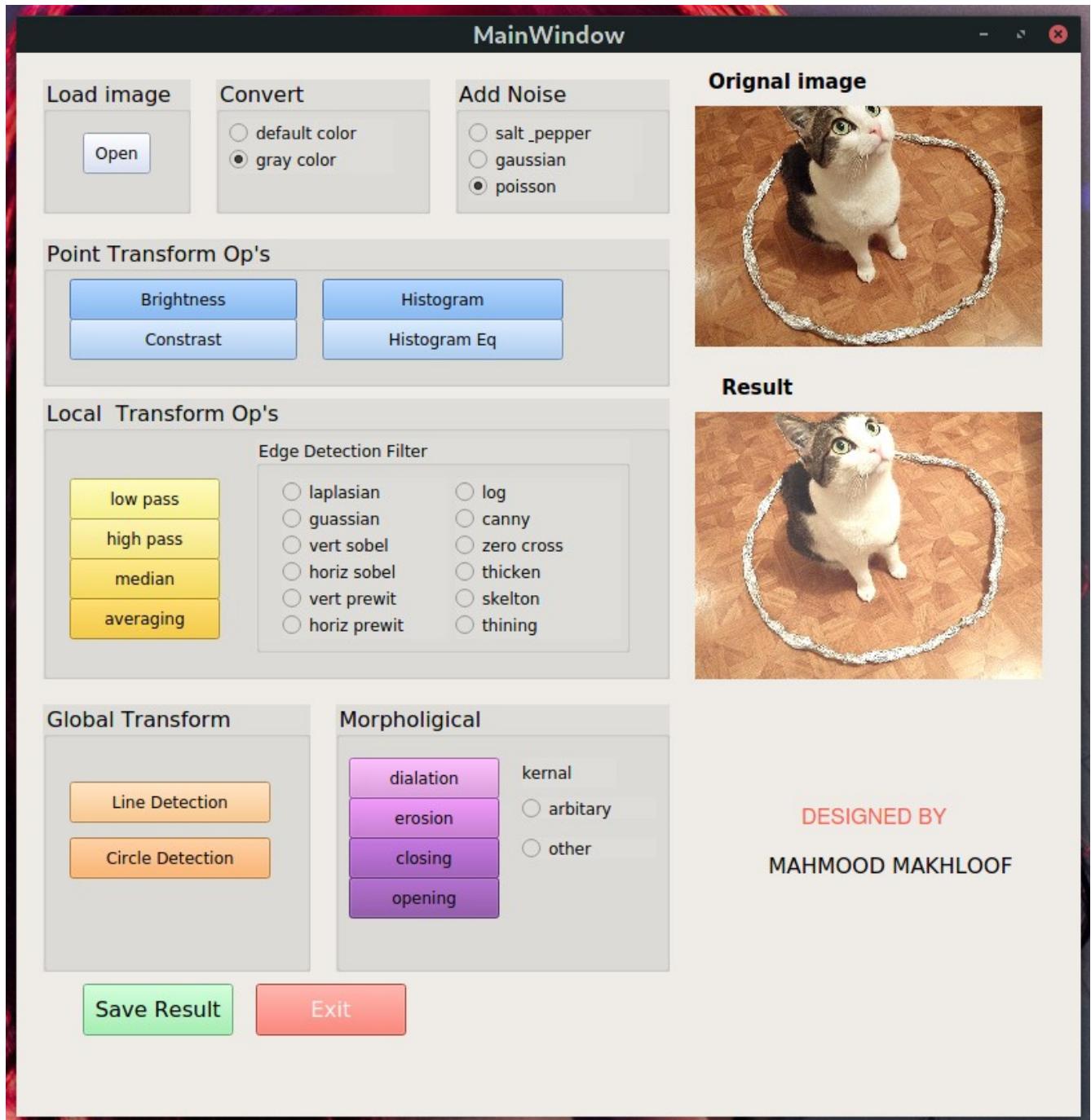
6- Guassian noise



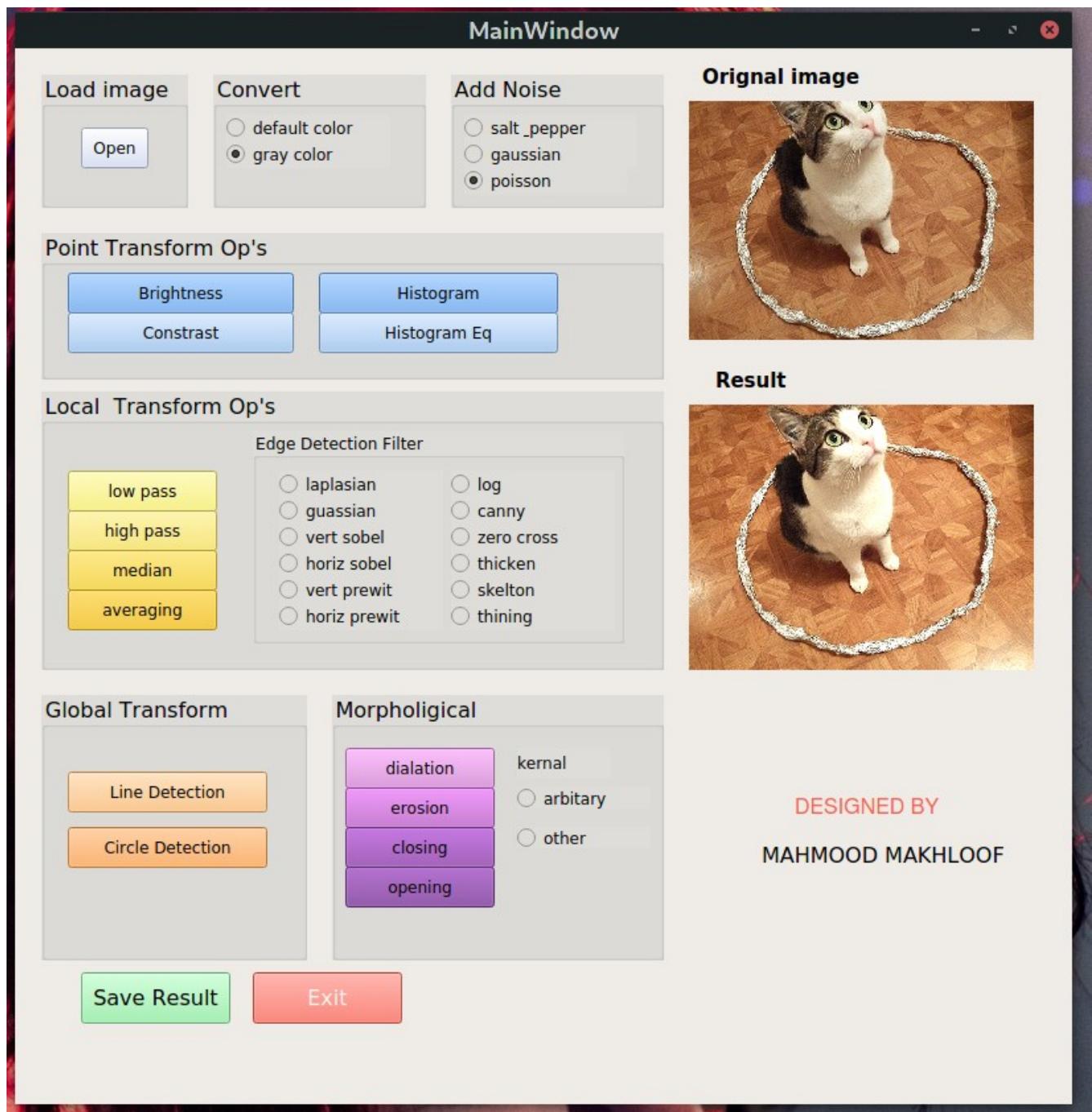
7- poisson noise



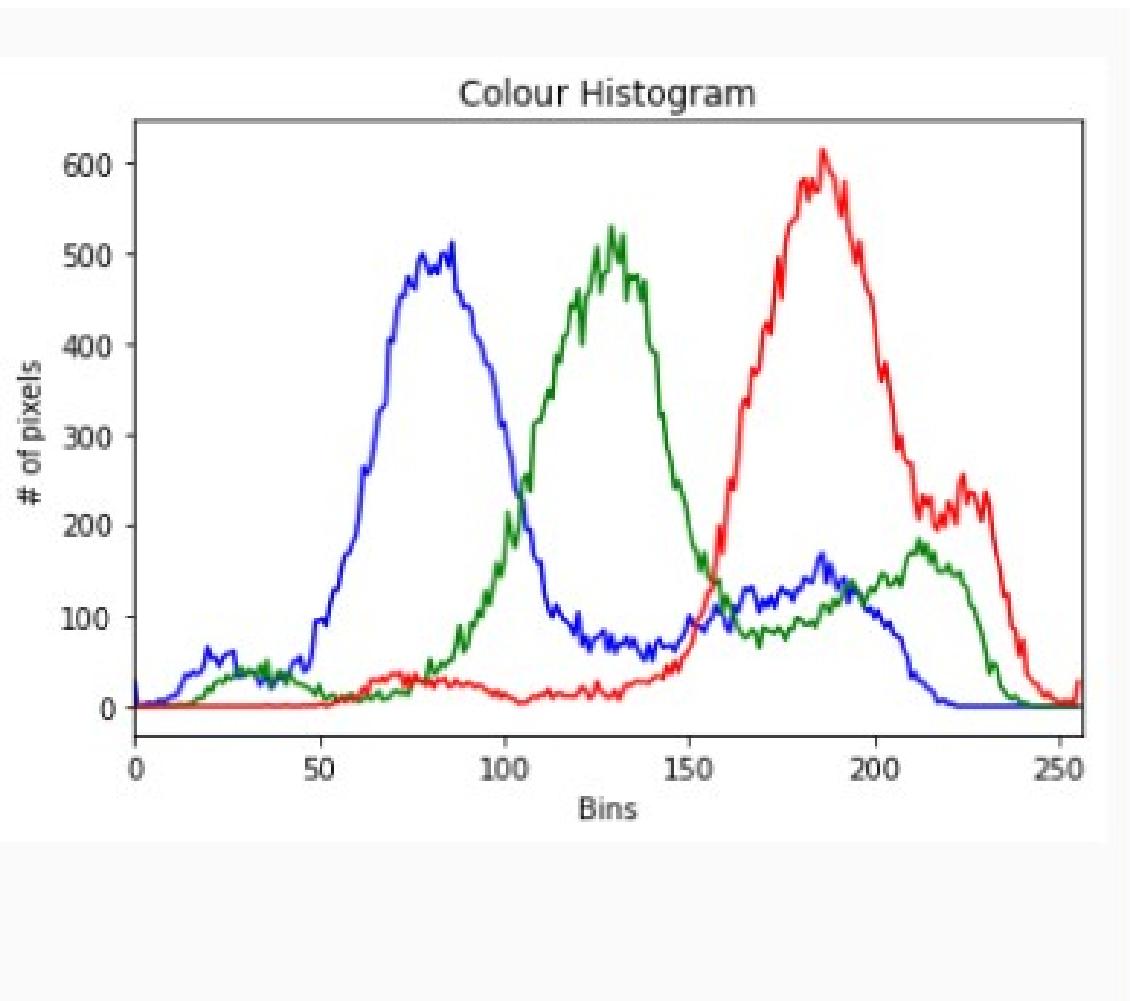
8- Brightness



9- Constast



10 - Histogram



11- Histogram Equalization

MainWindow

Load image **Convert** **Add Noise**

 default color gray color salt_pepper gaussian poisson

Point Transform Op's

Local Transform Op's

Edge Detection Filter

 laplasian log
 guassian canny
 vert sobel zero cross
 horiz sobel thicken
 vert prewit skelton
 horiz prewit thining

Global Transform

Morphological

 kernal
 arbitrary other

Orignal image

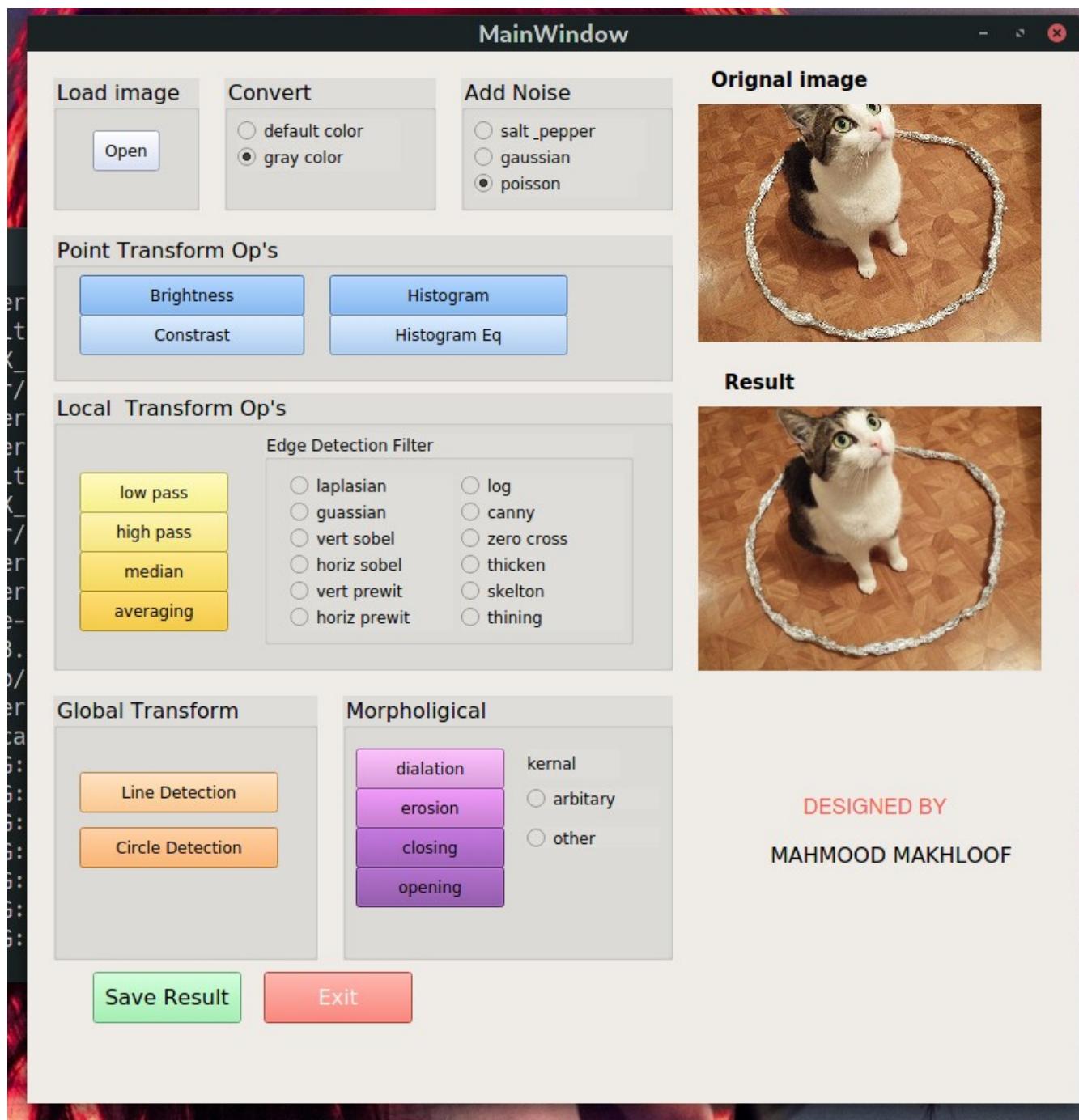


Result

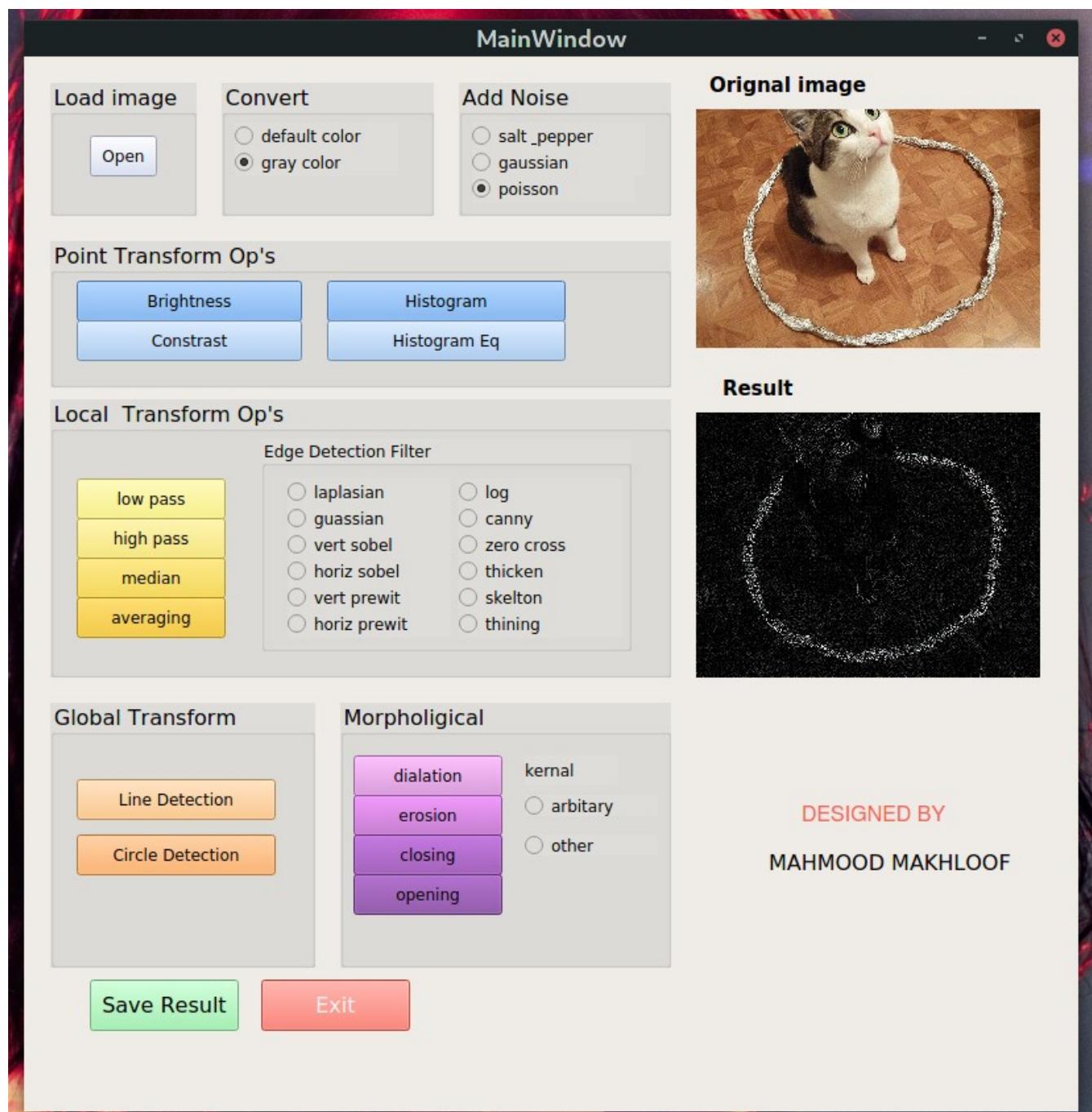


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12- Low Pass Filter



13- High pass filter



14 - Median

MainWindow

Load image

Convert

default color
 gray color

Add Noise

salt_pepper
 gaussian
 poisson

Original image



Point Transform Op's

Brightness
Contrast

Histogram
Histogram Eq

Local Transform Op's

Edge Detection Filter

low pass
high pass
median
averaging

laplasian
 guassian
 vert sobel
 horiz sobel
 vert prewit
 horiz prewit
 log
 canny
 zero cross
 thicken
 skelton
 thining

Result



Global Transform

Morphological

dialation
erosion
closing
opening

kernal

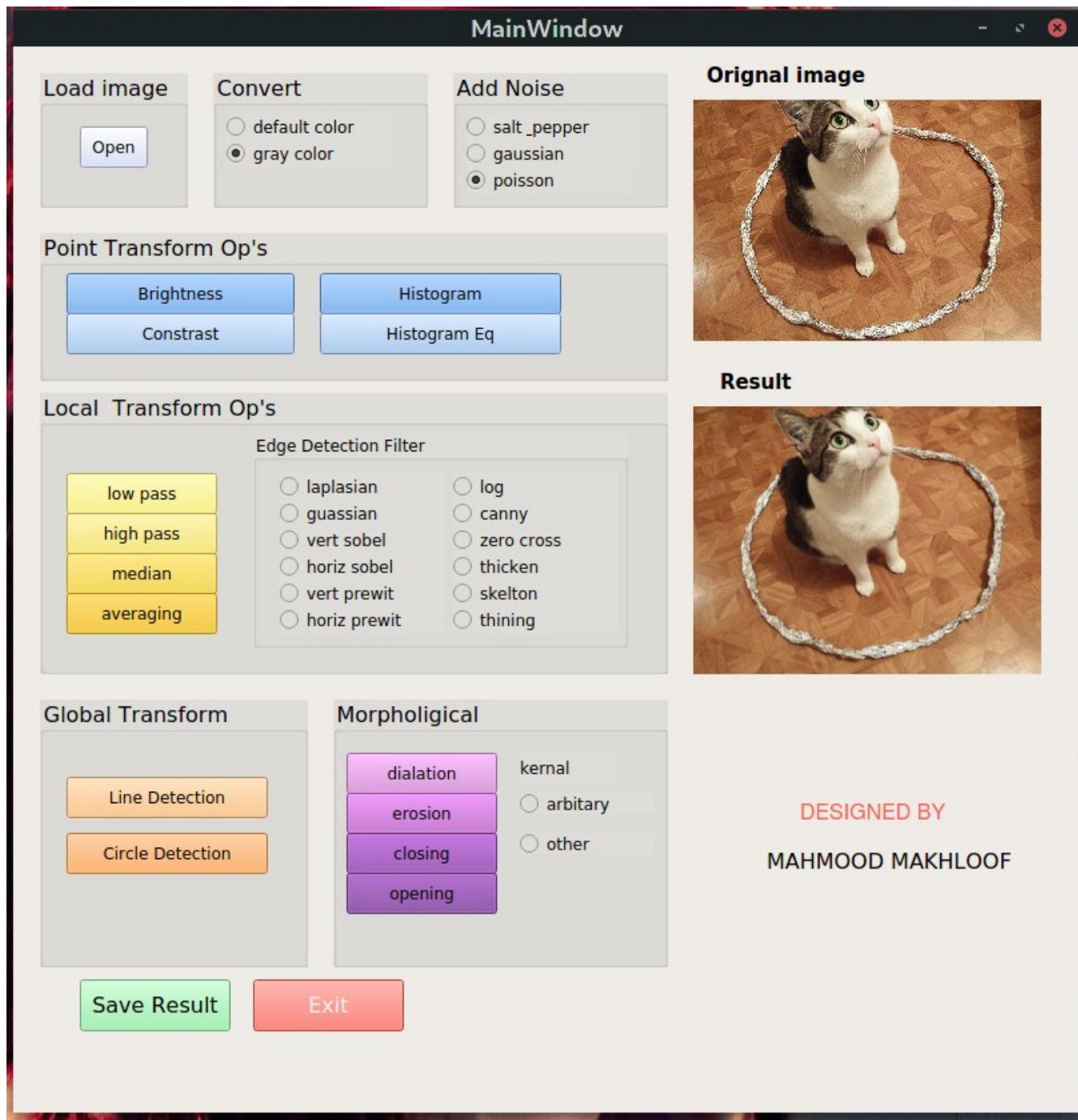
arbitrary
 other

DESIGNED BY
MAHMOOD MAKHOOF

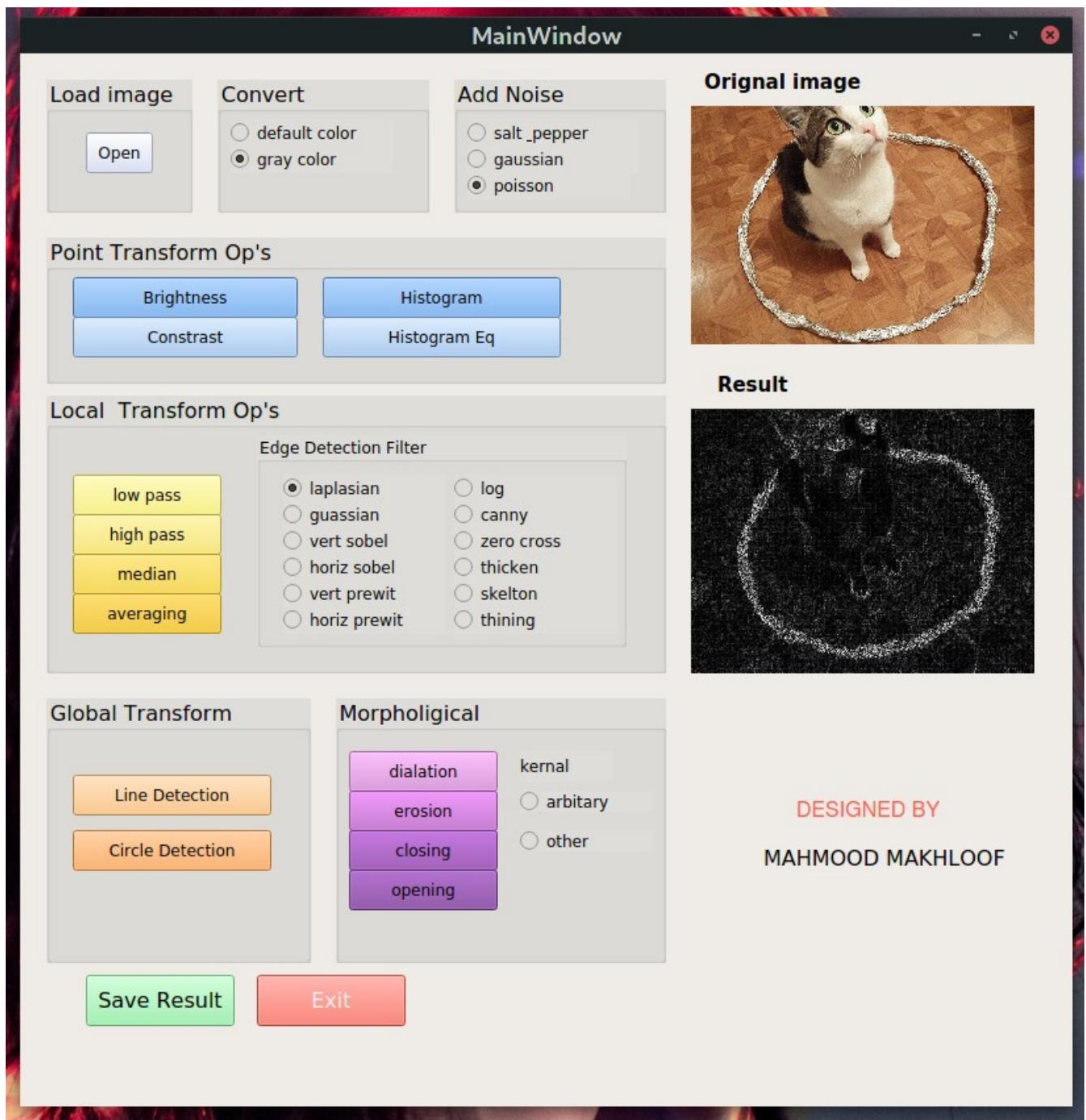
Save Result

Exit

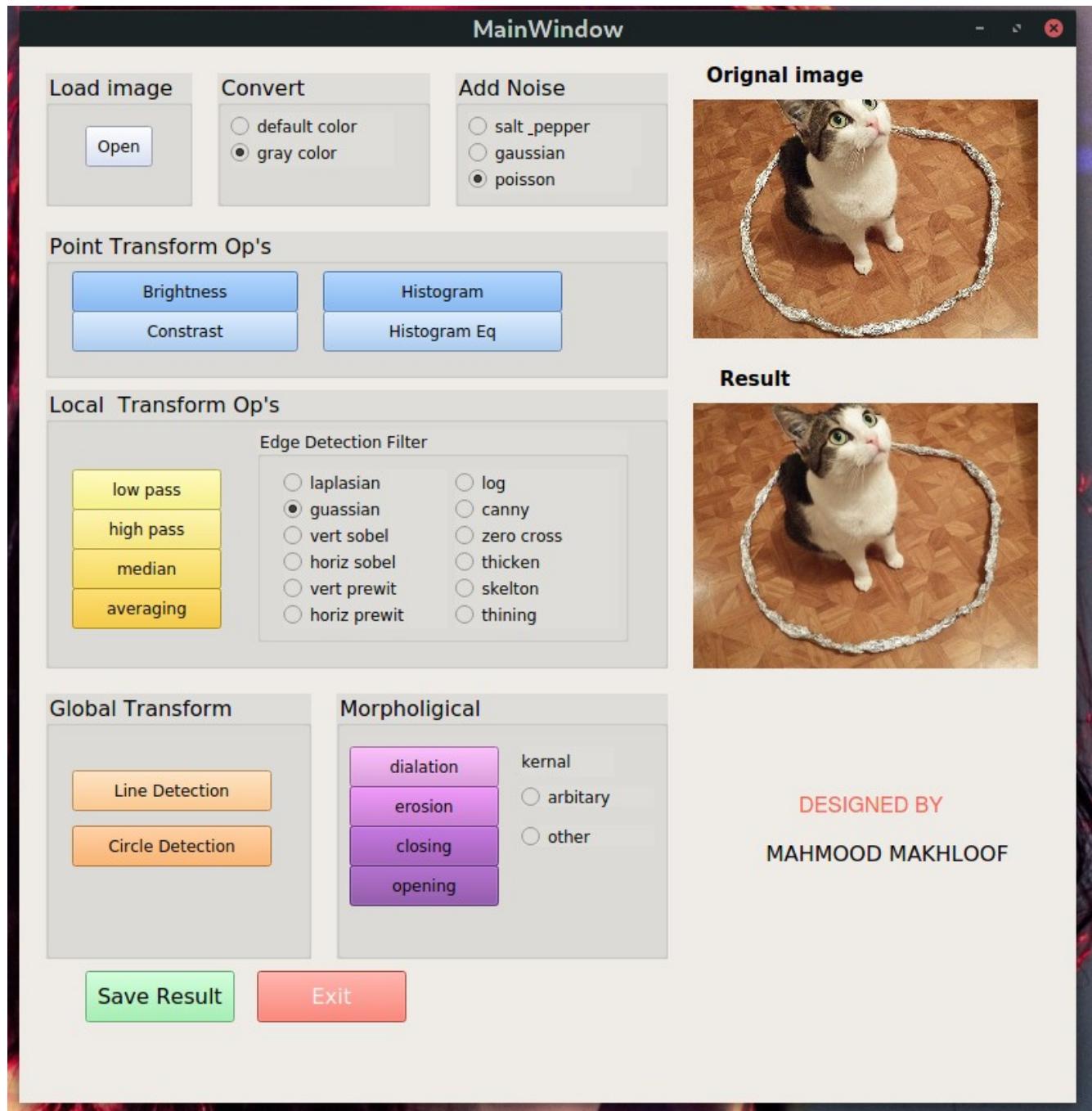
15 - Averaging Filter



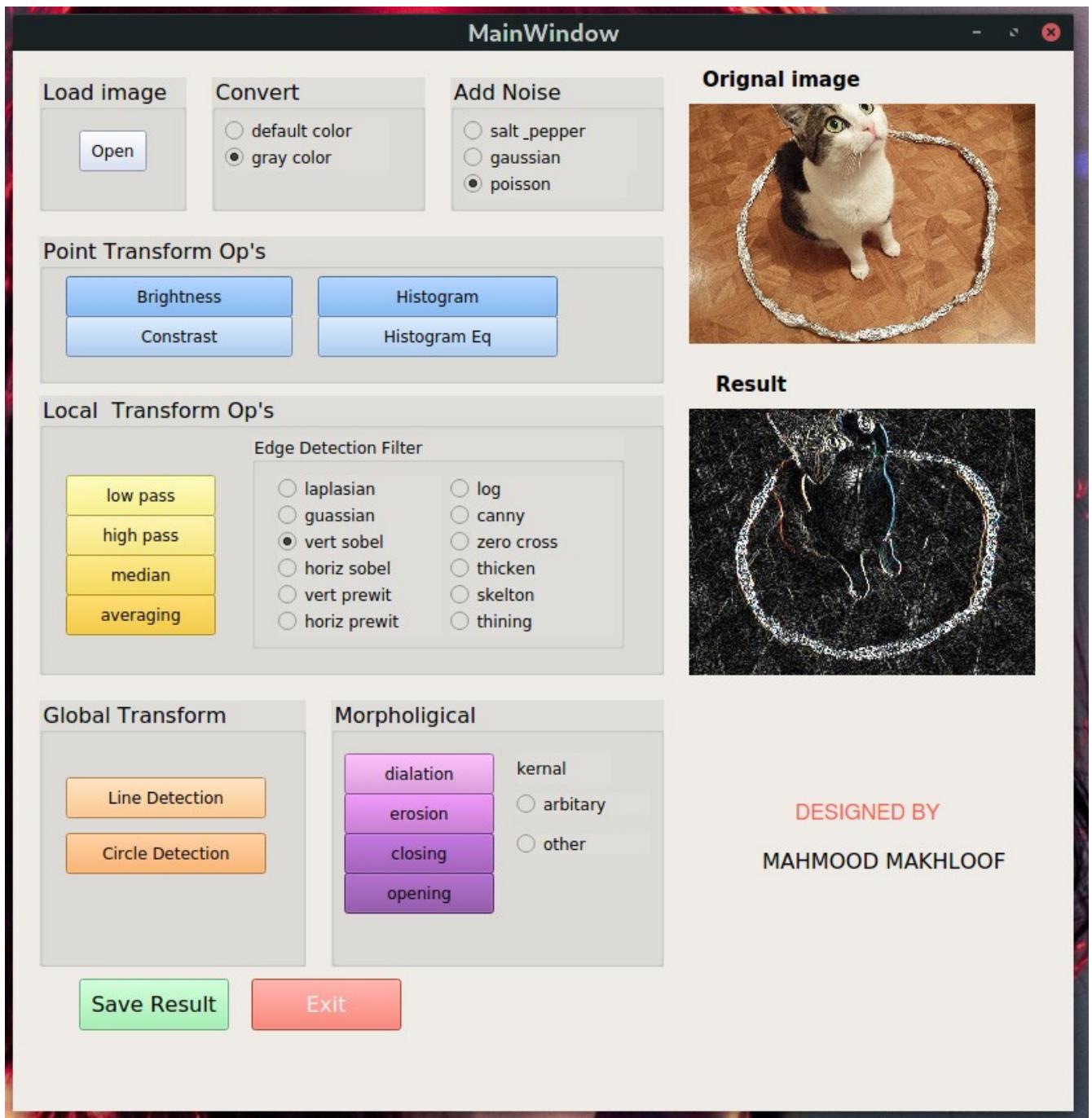
16 - Laplacian



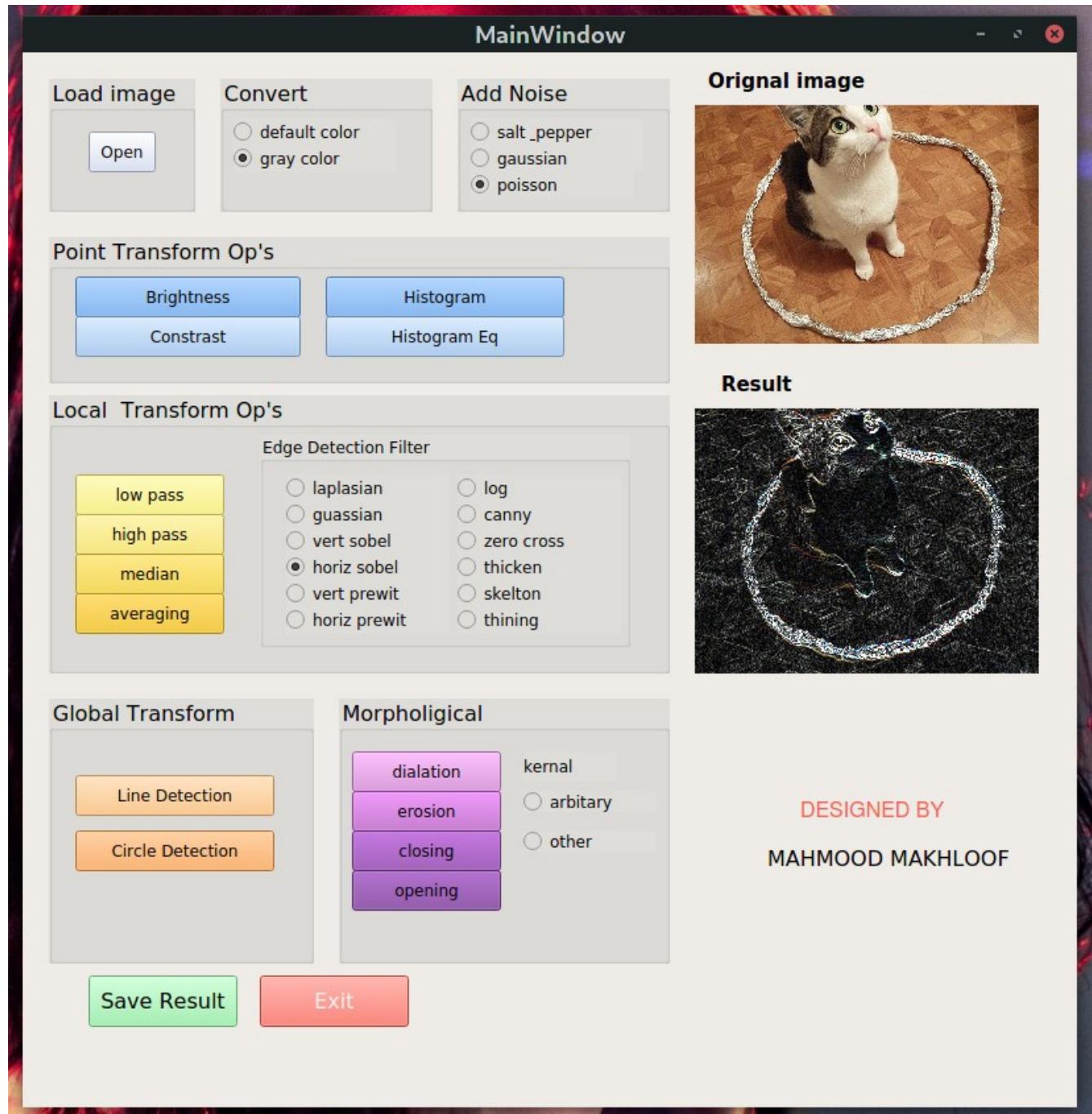
17- gaussian



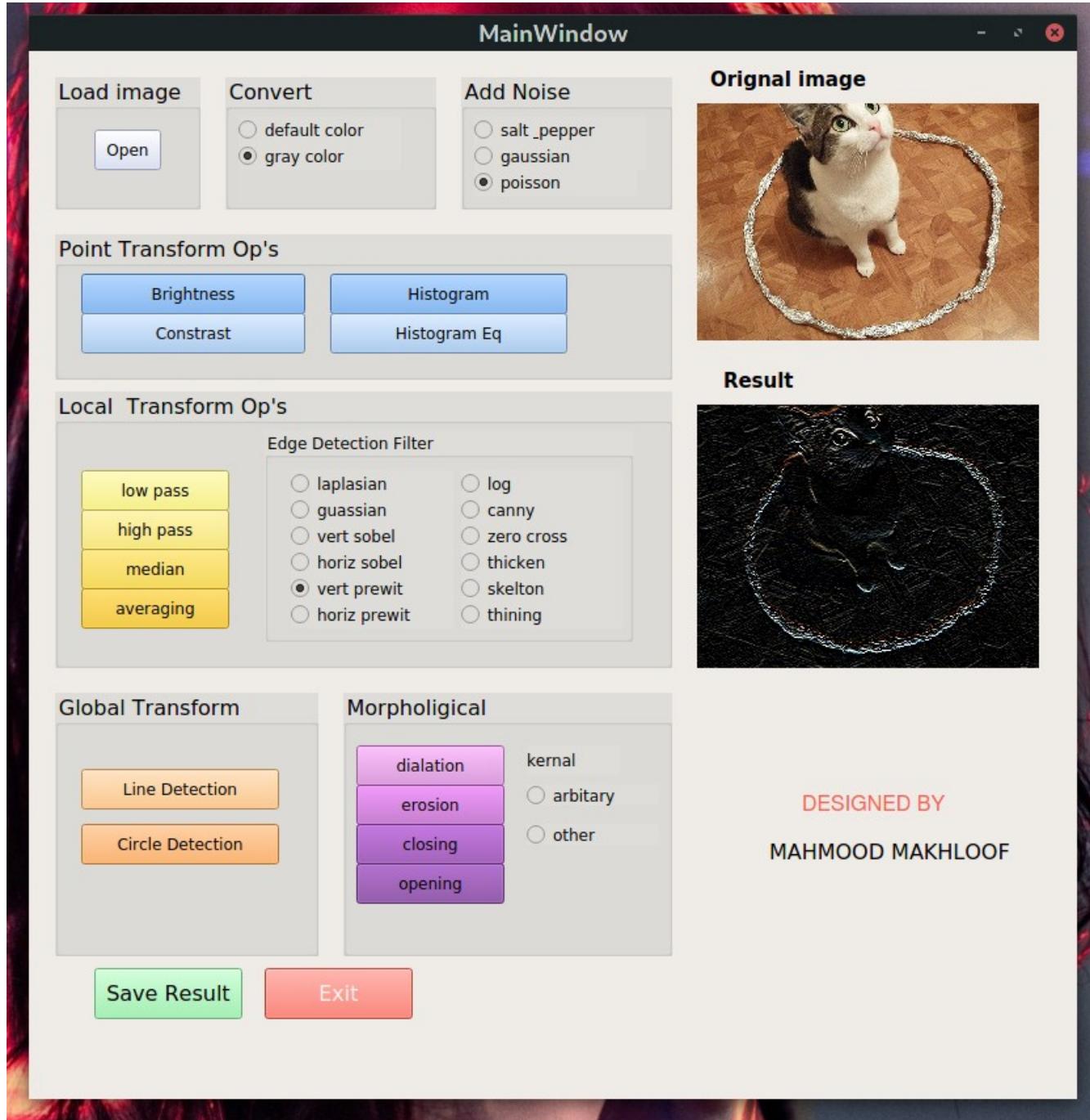
18- vrtical sobel



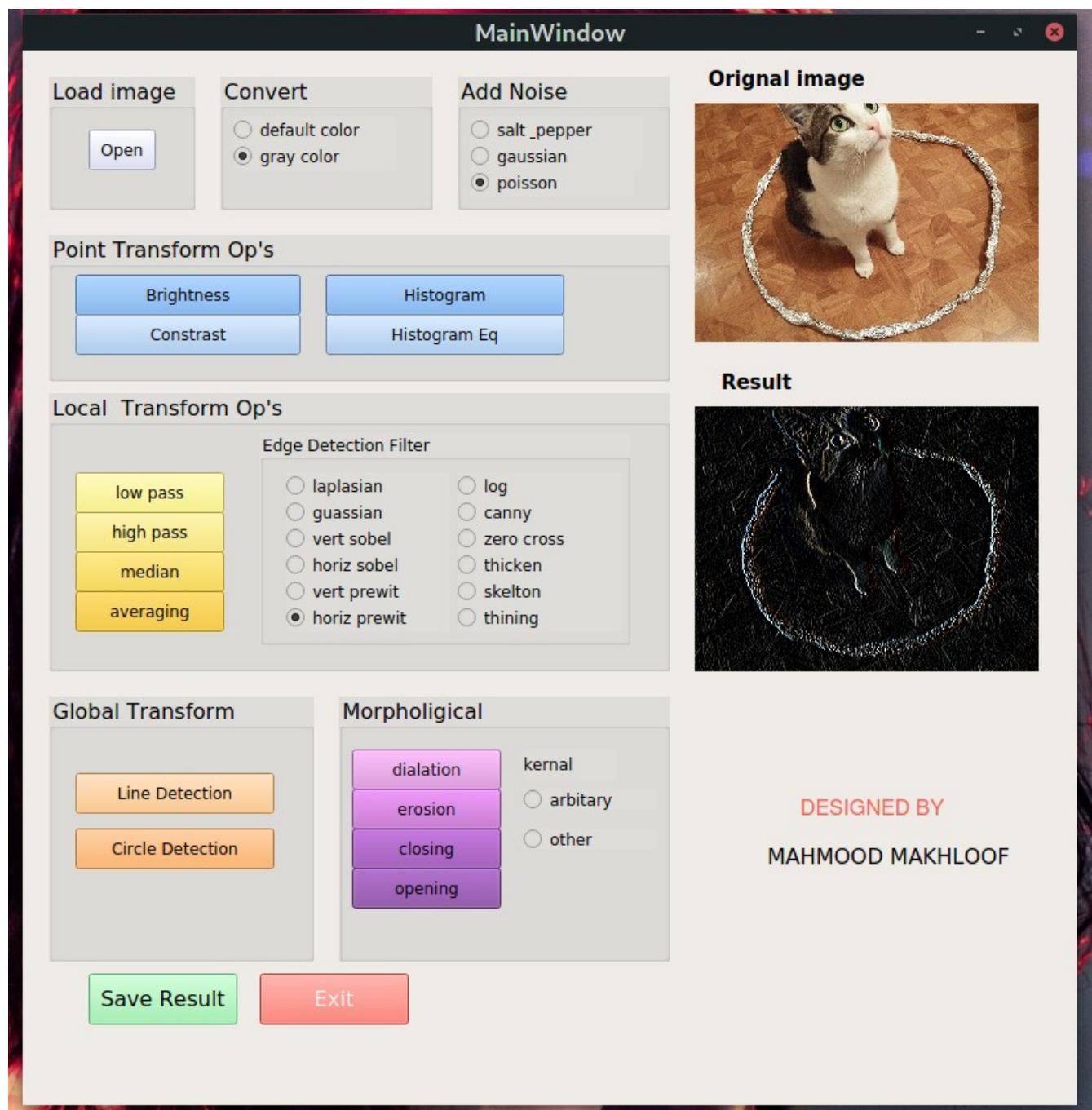
19 – horizontal soble



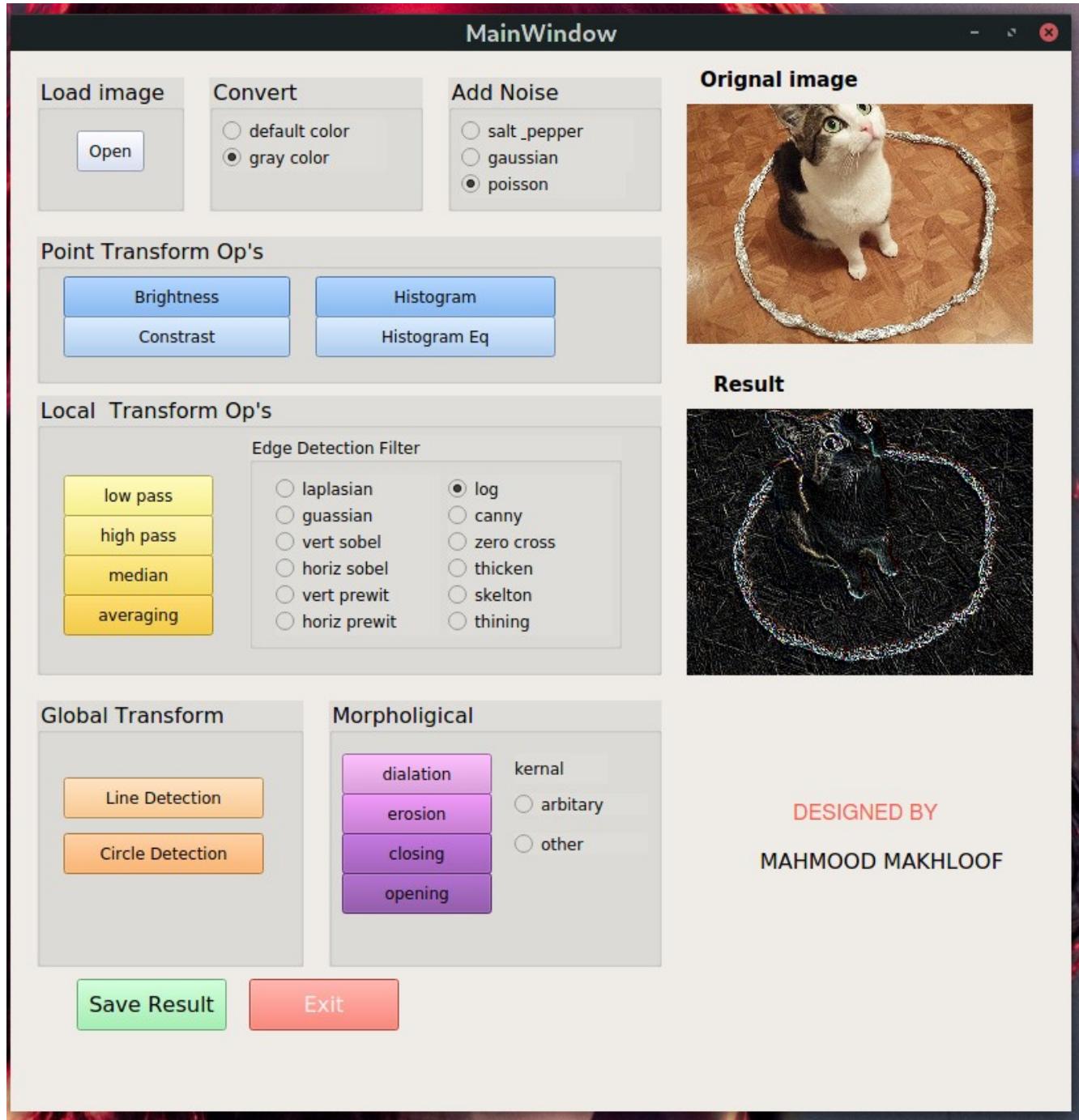
20 – vertical prewit



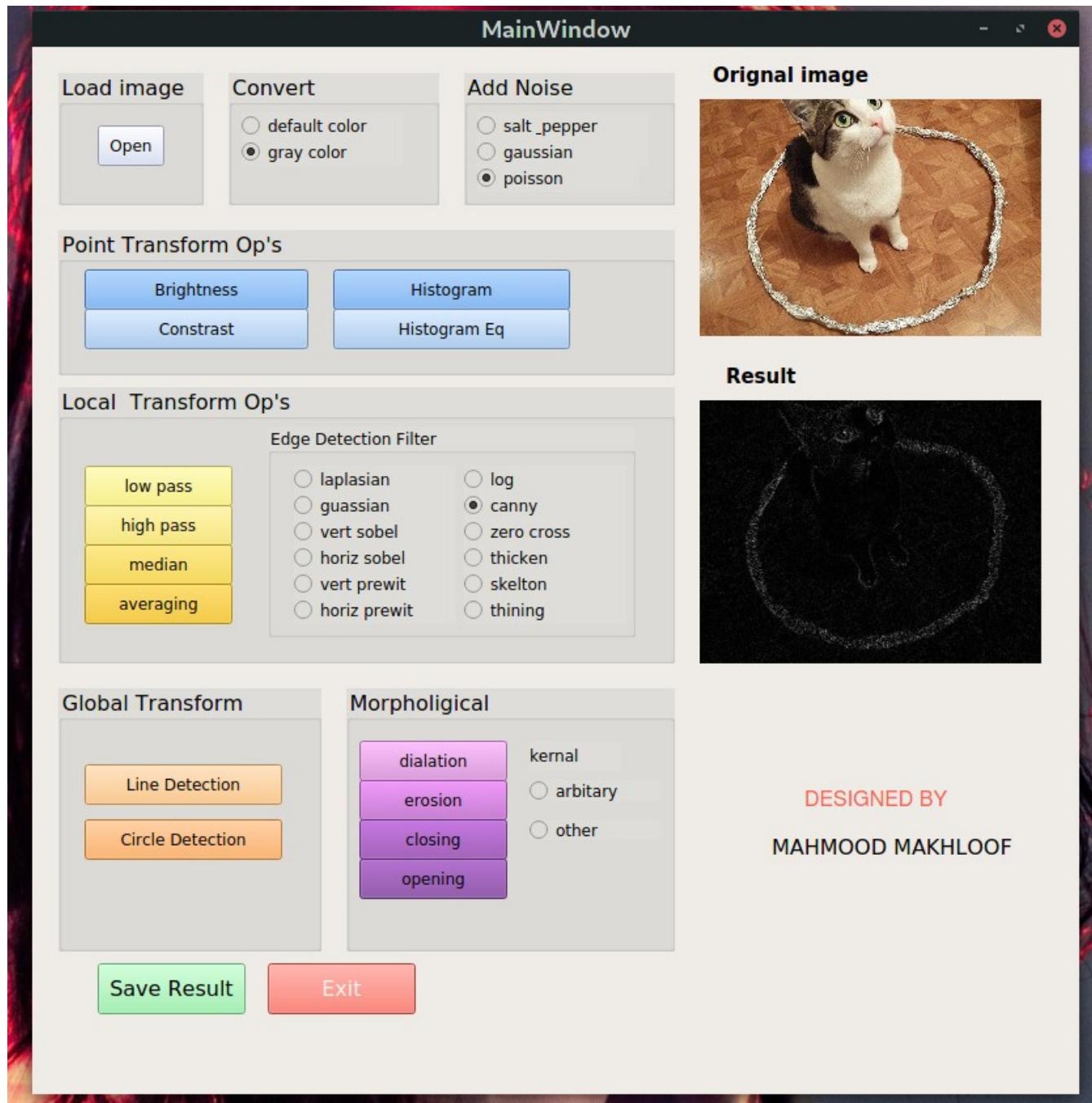
21 – horizontal prewitt



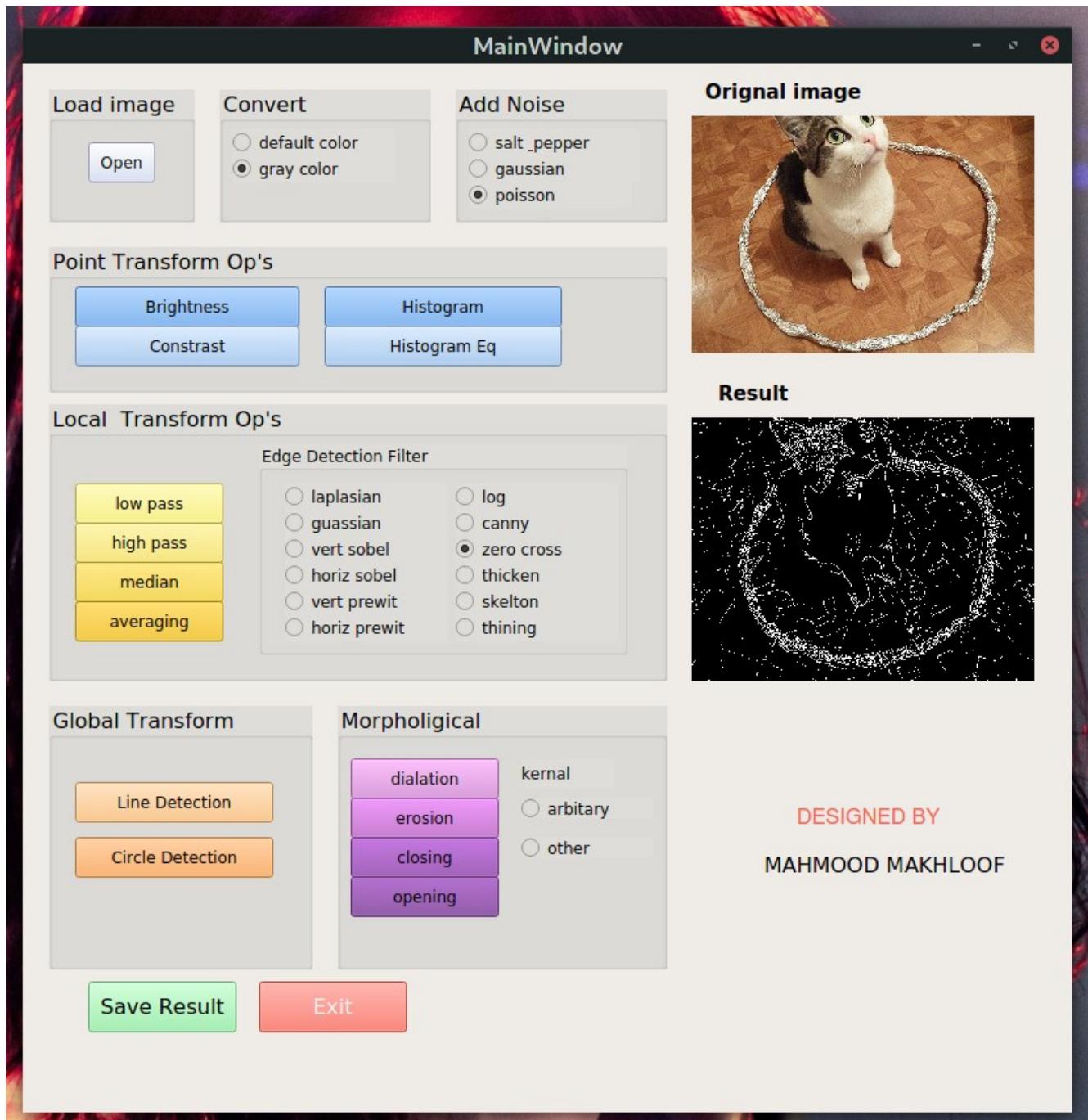
22- log



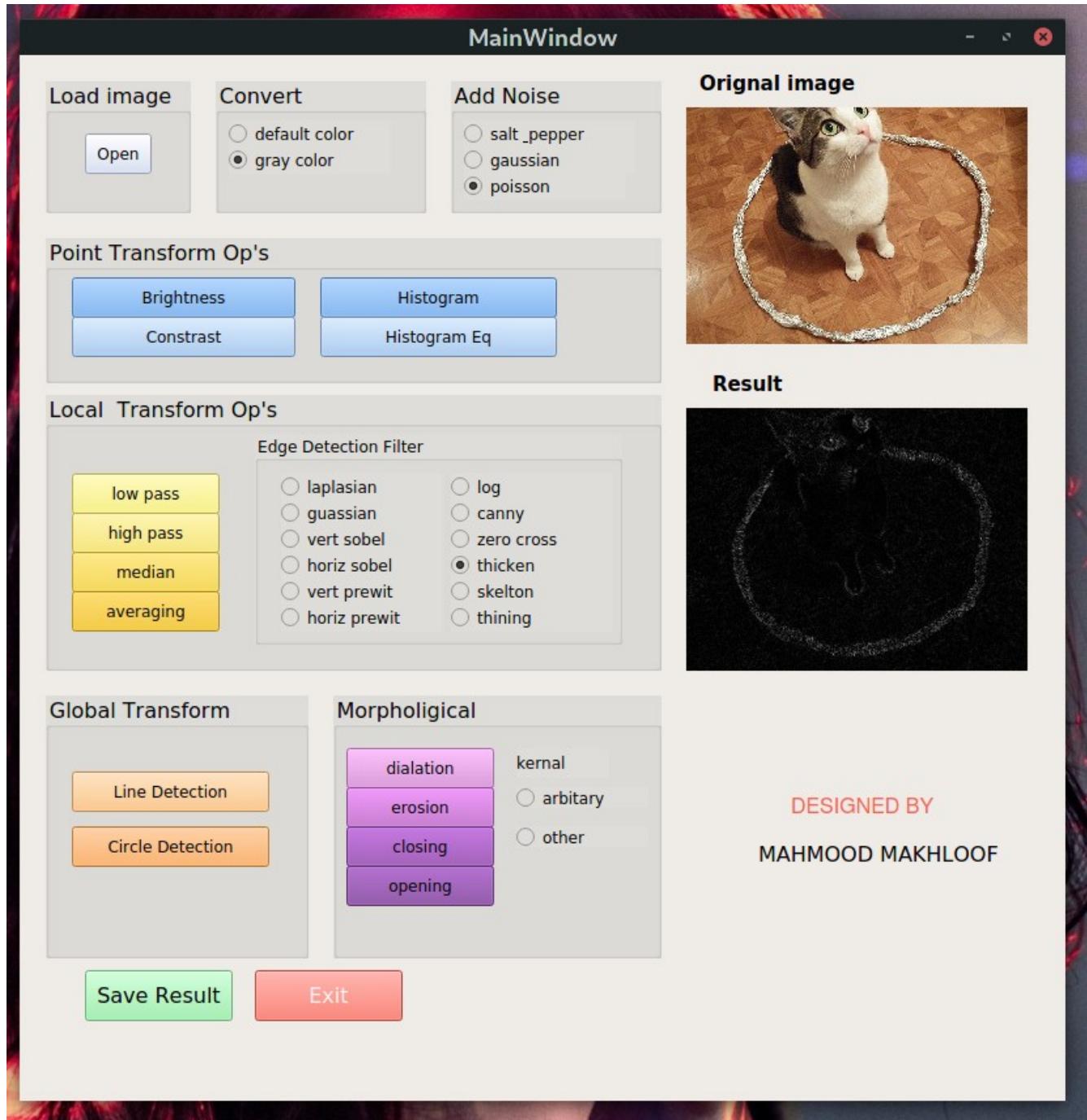
23 - canny



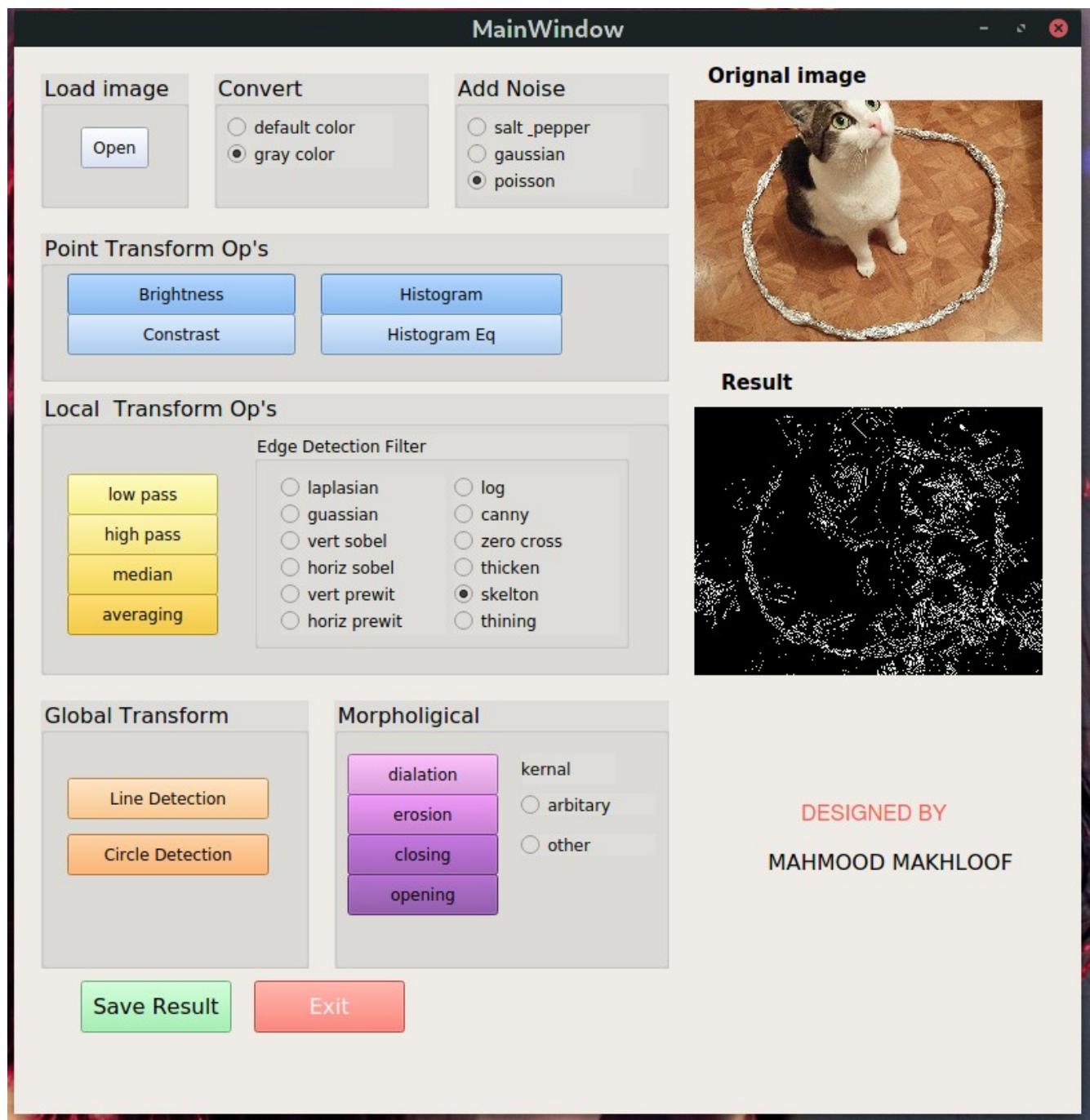
24- zero crossing



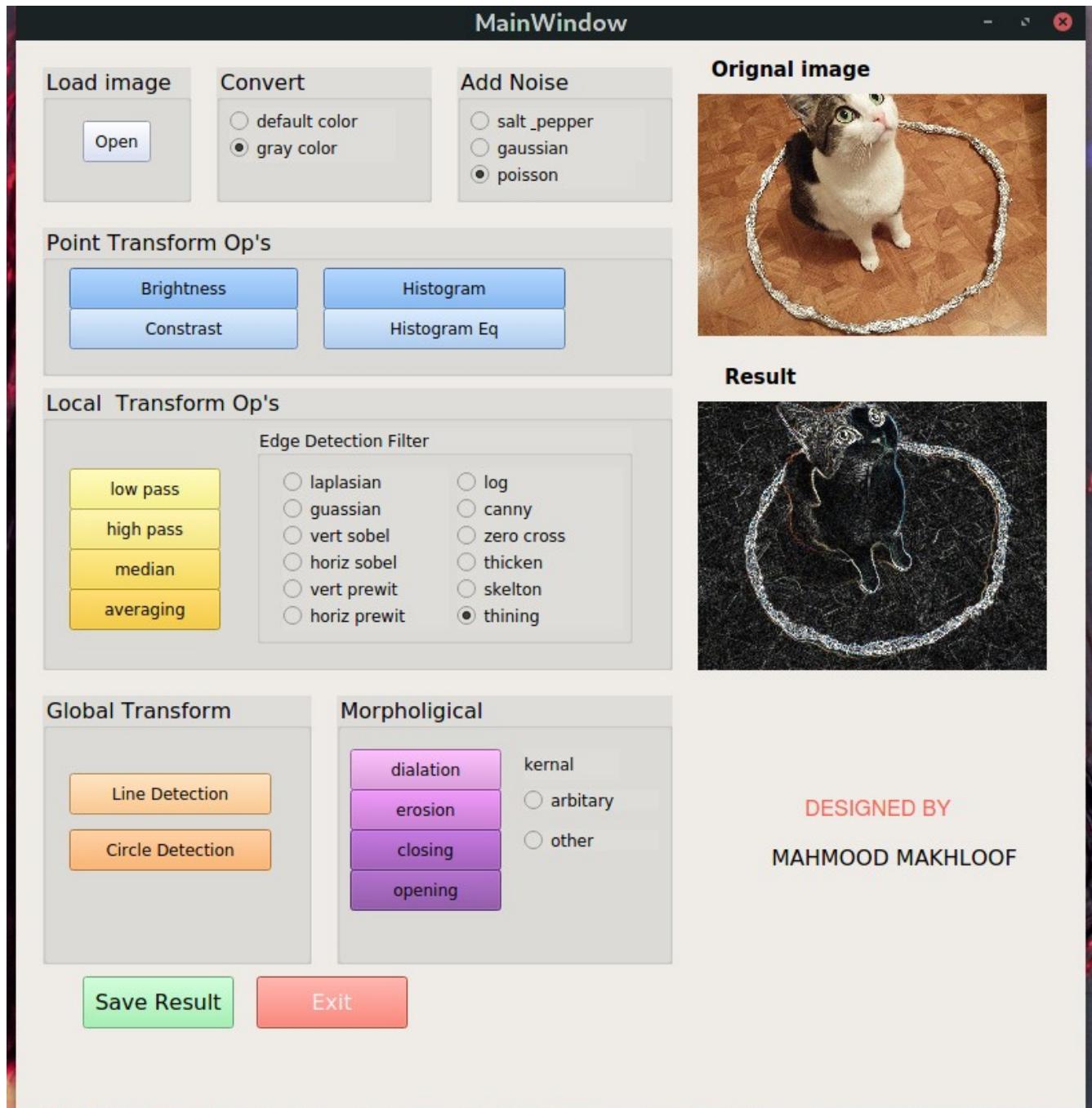
25- thicken



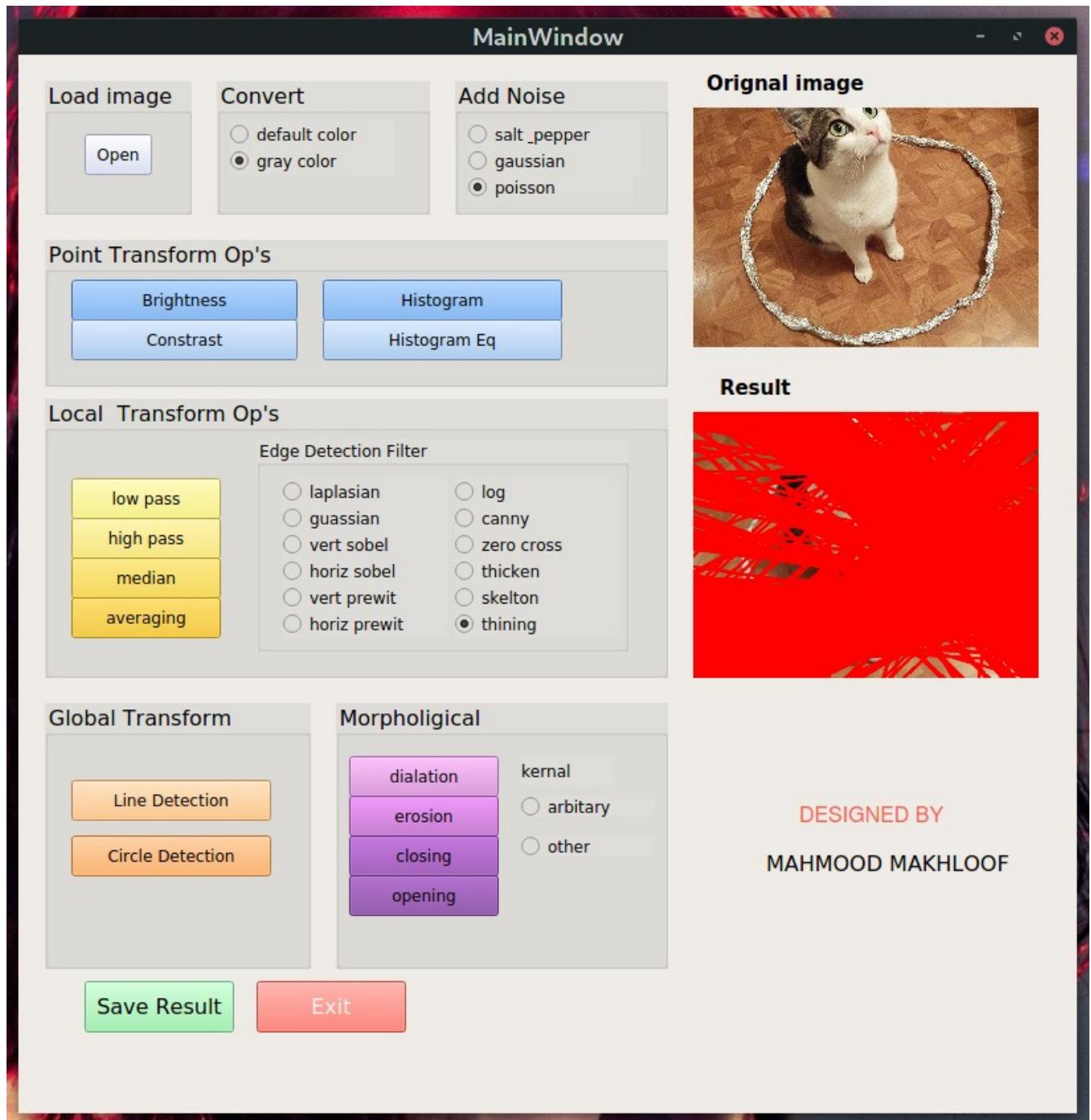
26 – skelton



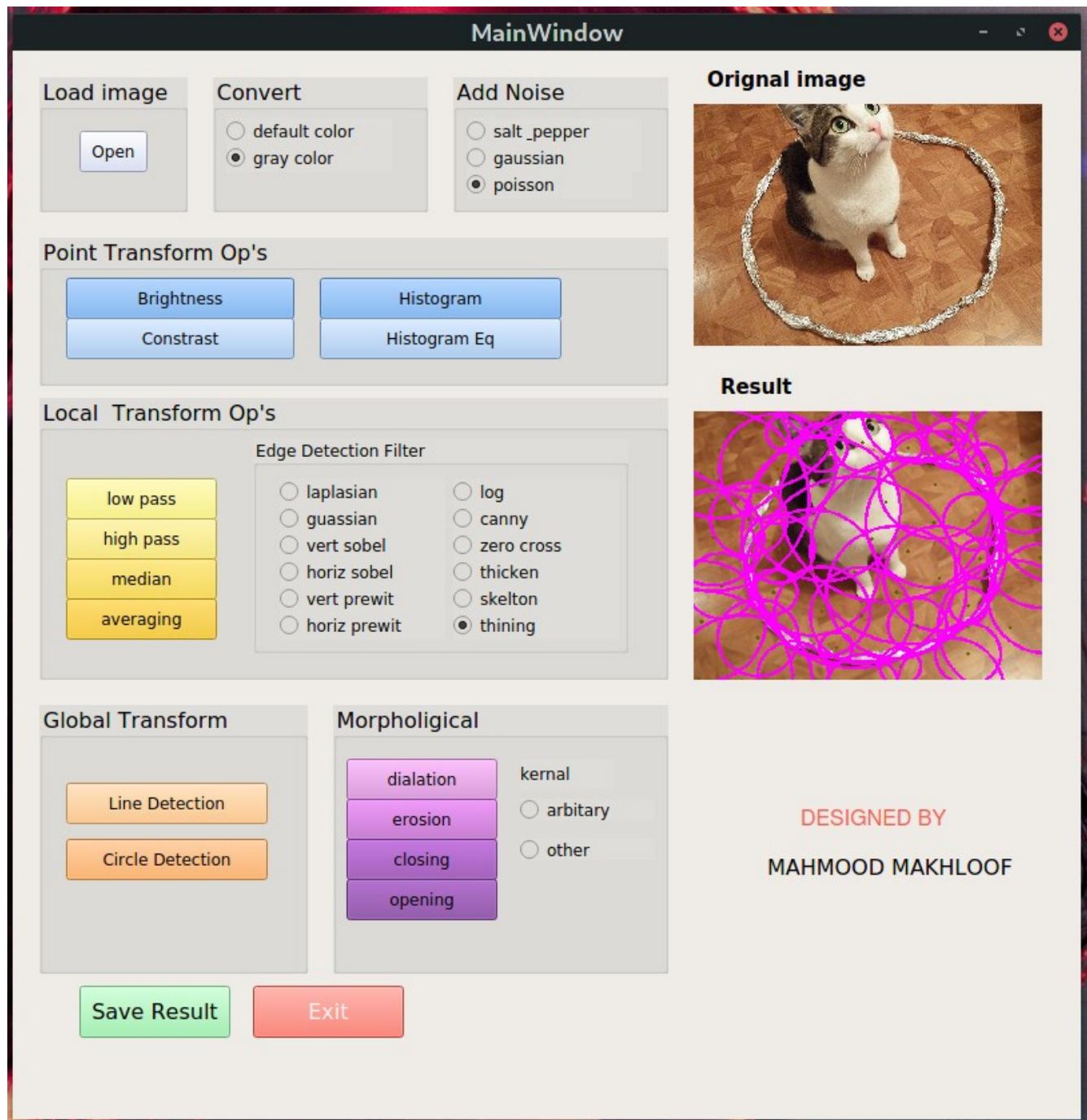
27- thining



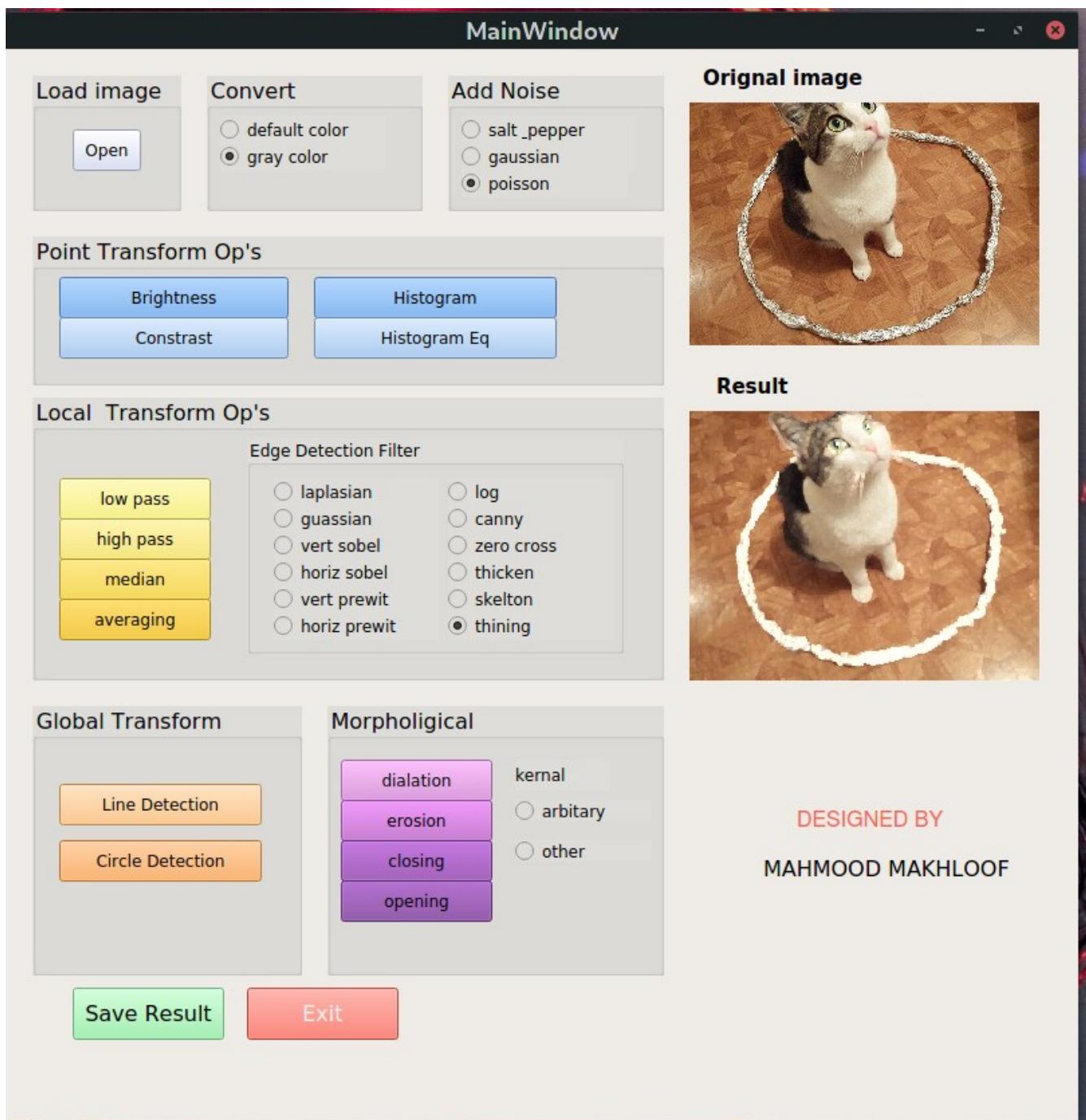
28 – line detection



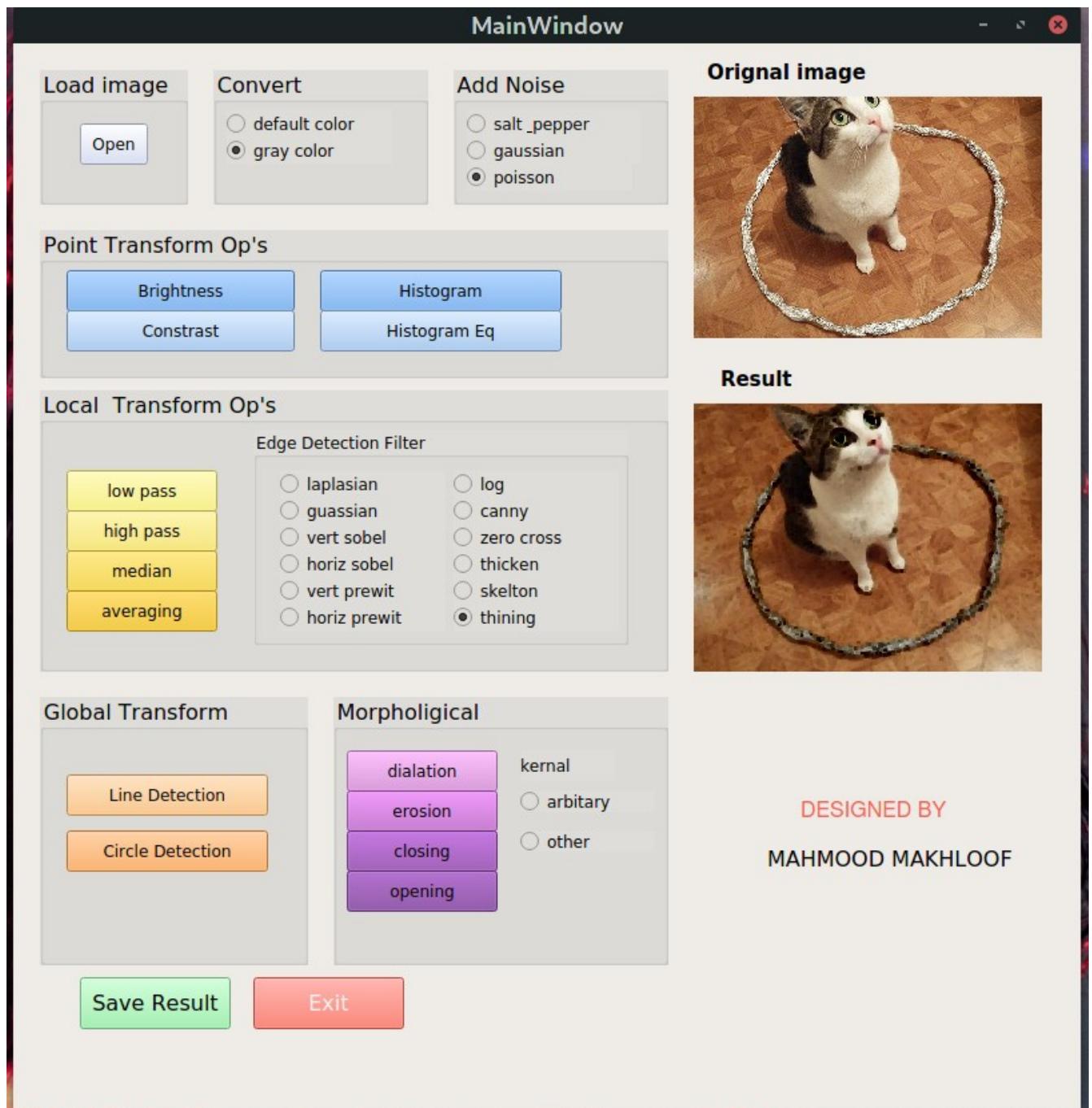
29- circle detection



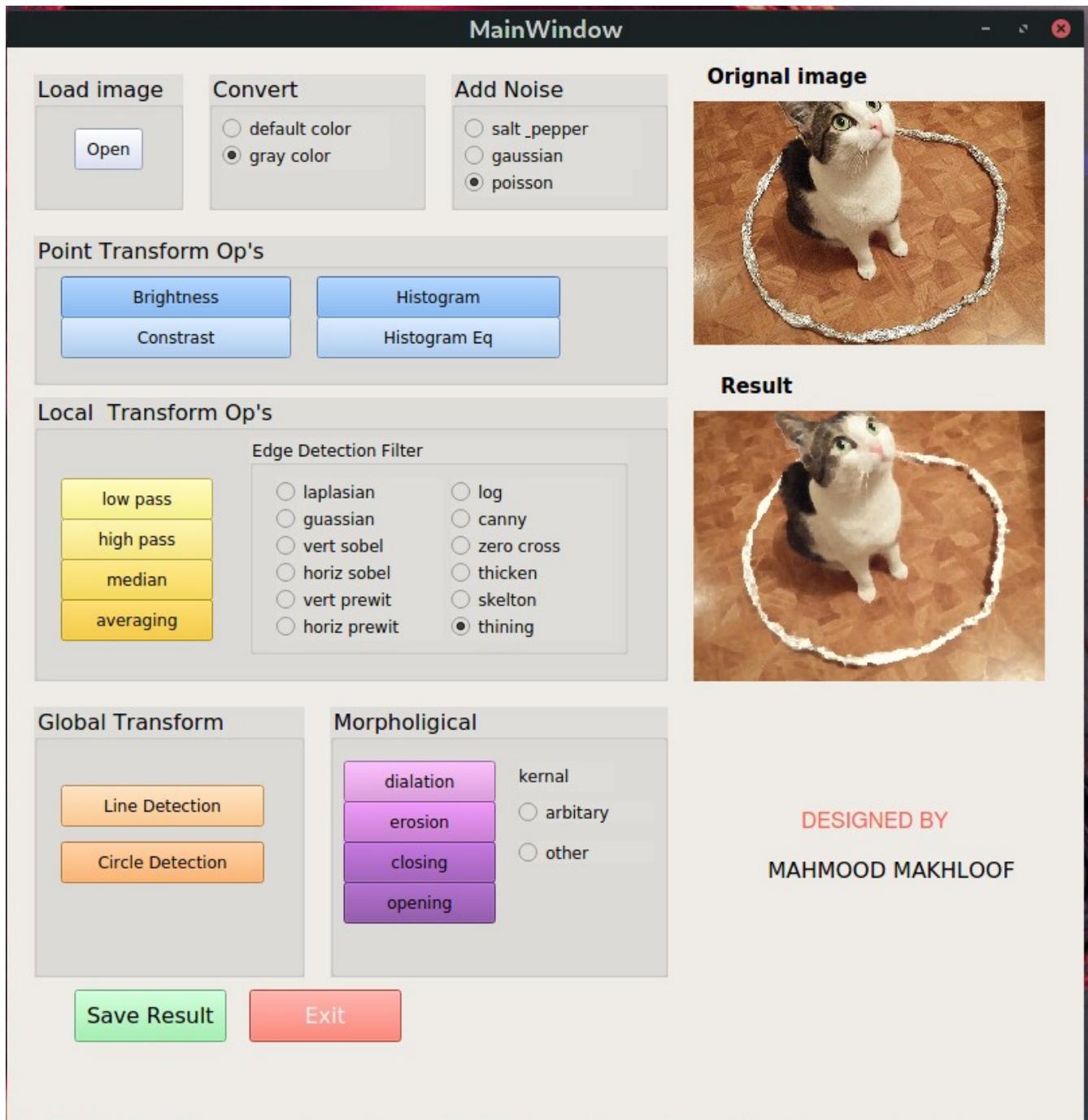
30 – dialation



31 - erosion



32 - closing



33 - opening

