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Figure 1

File Edit View Insert Tools Desktop Window Help

gray




Figure 2

File Edit View Insert Tools Desktop Window Help

gray suavizado (promediador T=3)




Figure 3

File Edit View Insert Tools Desktop Window Help

filtro soble





Figure 4

File Edit View Insert Tools Desktop Window Help

filtro soble suavizado (promediador T=3)



filas

957

955x540 double

[0.1111,0.1111,0.1111;...

956

[58,32,48;62,39,41;62,...

957x542x3 uint8

541

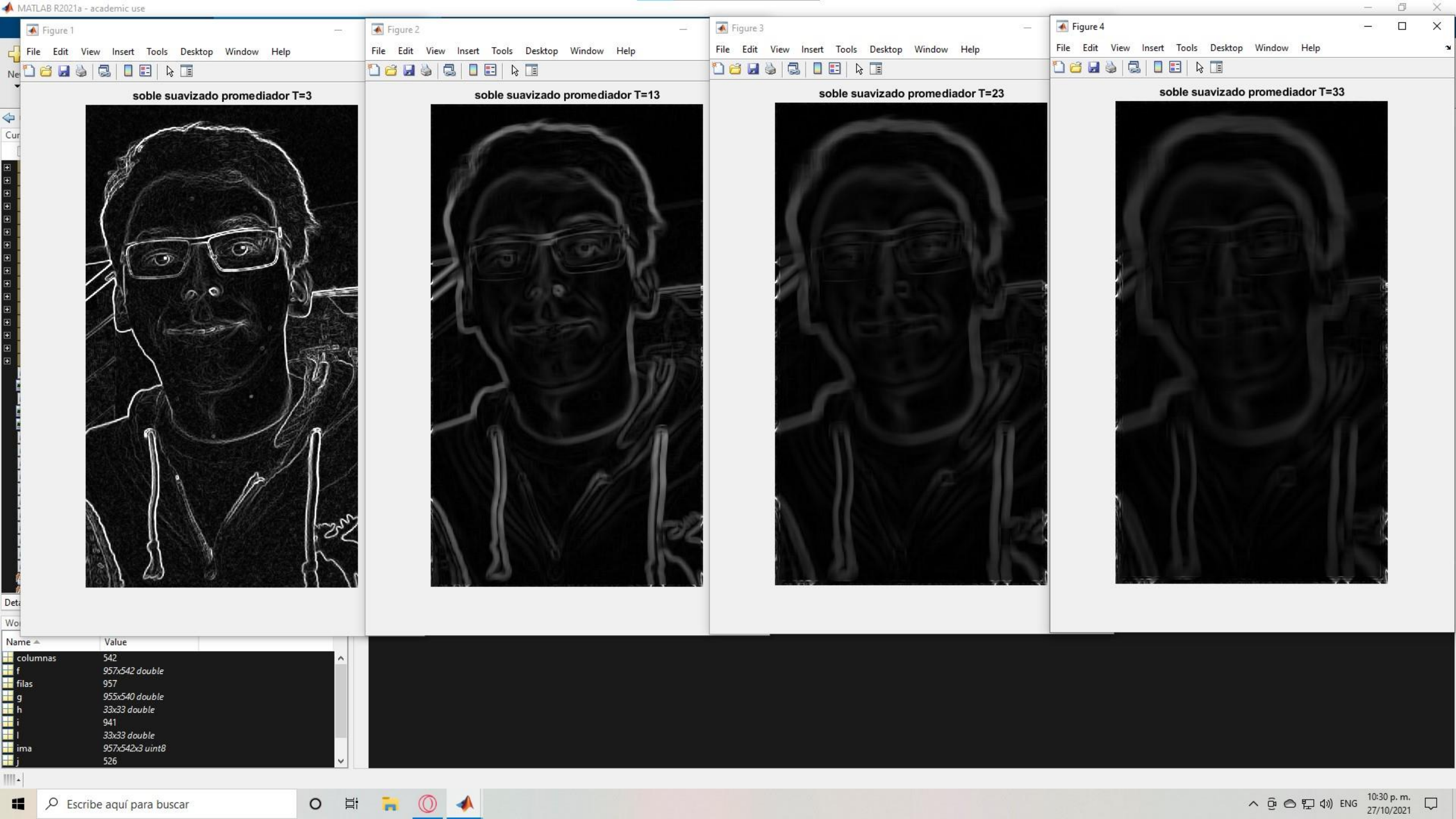
UTF-8

script

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imaibing.png

imaibinr.png

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mascarasobel.m

MOMENTO CENTRAL

Details

Workspace

Name	Value
columnas	542
f	957x542 double
filas	957
g	955x540 double
h	33x33 double
i	941
l	33x33 double
ima	957x542x3 uint8
j	526

4 occurrences of "j" found

Editor - C:\Users\kitsu\Documents\SVA\svasuavisado.m

svamascaras.m

mascarasobel.m

svasuavisado.m

svafiltrobinomial.m

```
1  clc
2  clear all
3  close all
4  %%% Ceballos Conde Emanuel
5  %%% Sistemas de vision artificial
6  %%% 4MV6 2022/1
7
8  ima=imread('C:\Users\kitsu\Documents\SVA\0.jpg');
9  f=double(rgb2gray(ima));
10 s=mascarasobel(f);
11 %
12 % figure, imshow(uint8(f))
13 % figure, imshow(uint8(s))
14
15 [filas,columnas]=size(f);
16
17 %%%filtro promediador
18 for T=3:10:35
19     h=(1/T^2)*ones(T);
20     for i=((T+1)/2):filas-((T-1)/2)
21         for j=((T+1)/2):columnas-((T-1)/2)
22             I=f(i-((T-1)/2):i+((T-1)/2),j-((T-1)/2):j+((T-1)/2));
23             g(i-1,j-1)=sum(sum(I.*h));
24         end
25     end
26     % figure, imshow(uint8(f))
27     % title('gray')
28     % figure, imshow(uint8(g))
29     % title('gray suavizado (promediador T=3) ')
30     % figure, imshow(uint8(mascarasobel(f)))
31     % title('filtro sobre')
32     % figure, imshow(uint8(mascarasobel(g)))
33     % title('filtro sobre suavizado (promediador T=3)')
34     figure,imshow(uint8(mascarasobel(g)))
35     title(strcat('soble suavizado promediador T=',num2str(T)))
36     drawnow
37 end
```

Command Window

New to MATLAB? See resources for [Getting Started.](#)

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maskarasobel.m

MOMENTO CENTRAL

Details

Workspace

Name	Value
columnas	542
f	957x542 double
filas	957
g	955x540 double
h	33x33 double
i	941
l	33x33 double
ima	957x542x3 uint8
j	526

Editor - C:\Users\kitsu\Documents\SVA\maskarasobel.m

svamaskaras.m

maskarasobel.m

svasuavisado.m

svafiltrobinomial.m

+

```
1 function R=maskarasobel(f)
2   Sx=[-1 0 1;-2 0 2;-1 0 1];
3   Sy=[-1 -2 -1;0 0 0;1 2 1];
4
5   [filas,columnas]=size(f);
6
7   for i=2:filas-1
8     for j=2:columnas-1
9       S=f(i-1:i+1,j-1:j+1);
10      R(i-1,j-1)=sqrt(sum(sum(S.*Sx))^2+sum(sum(S.*Sy))^2);
11    end
12  end
13 end
```

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New to MATLAB? See resources for [Getting Started](#).

>>

4 occurrences of "j" found

UTF-8

maskarasobel

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MATLAB R2021a - academic use

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imadbinr.png

imai.png

imaibinb.png

imaibing.png

imaibinr.png

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mascarasobel

MOMENTOCC

Details

Workspace

Name

b

columnas

542

f

957x542 double

filas

957

g

953x538 double

h

7x7 double

i

954

l

7x7 double

ima

957x542x3 uint8

Figure 1

FileEditViewInsertToolsDesktopWindowHelp

soble suavizado binomial T=3




Figure 2

FileEditViewInsertToolsDesktopWindowHelp

soble suavizado binomial T=5





Figure 3

FileEditViewInsertToolsDesktopWindowHelp

soble suavizado binomial T=7



UTF-8

script

Ln 8Col 18

0.00020.00150.00370.00490.00370.00200.0002

0.00020.00150.00370.00490.00370.00200.0002

0.00150.00880.02200.02930.02200.00880.0015

0.00370.02200.07320.05490.07320.02200.0037

0.00490.07320.09770.07320.02930.00490.0002

0.02200.05490.07320.02200.00880.00150.0002

0.07320.09770.07320.02930.00490.00020.0002

0.09770.07320.02930.00490.00020.00020.0002

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imai.png

imaibinb.png

imaibing.png

imaibinr.png

logo adobe CCE.jpg

mascarasobel.m

MOMENTO CENTRAL

Details

Workspace

Name	Value
b	[1,6,15,20,15,6,1]
columnas	542
f	957x542 double
filas	957
g	953x538 double
h	7x7 double
i	954
l	7x7 double
ima	957x542x3 uint8

Editor - C:\Users\kitsu\Documents\SVA\svafiltrobinomial.m*

svamascaras.m

mascarasobel.m

svasuavisado.m

svafiltrobinomial.m*

```
1-   clc
2-   clear all
3-   % close all
4-   %%% Ceballos Conde Emanuel
5-   %%% Sistemas de vision artificial
6-   %%% 4MV6 2022/1
7-
8-   b=[1 6 15 20 15 6 1];
9-
10-  ima=imread('C:\Users\kitsu\Documents\SVA\0.jpg');
11-  f=double(rgb2gray(ima));
12-
13-  [filas,columnas]=size(f);
14-
15-  T=7;
16-  h=(b'*b)/sum(sum(b'*b))
17-  % h=(1/T^2)*ones(T);
18-  %%%filtro binomial
19-  for i=((T+1)/2):filas-((T-1)/2)
20-      for j=((T+1)/2):columnas-((T-1)/2)
21-          I=f(i-((T-1)/2):i+((T-1)/2),j-((T-1)/2):j+((T-1)/2));
22-          g(i-1,j-1)=sum(sum(I.*h));
23-      end
24-  end
25-
26-  figure,imshow(uint8(mascarasobel(g)))
27-  title(strcat('soble suavizado binomial T=',num2str(T)))
28-
```

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h =

0.0002 0.0015 0.0037 0.0049 0.0037 0.0015 0.0002

0.0015 0.0088 0.0220 0.0293 0.0220 0.0088 0.0015

0.0037 0.0220 0.0549 0.0732 0.0549 0.0220 0.0037

0.0049 0.0293 0.0732 0.0977 0.0732 0.0293 0.0049

0.0037 0.0220 0.0549 0.0732 0.0549 0.0220 0.0037

0.0015 0.0088 0.0220 0.0293 0.0220 0.0088 0.0015

0.0002 0.0015 0.0037 0.0049 0.0037 0.0015 0.0002

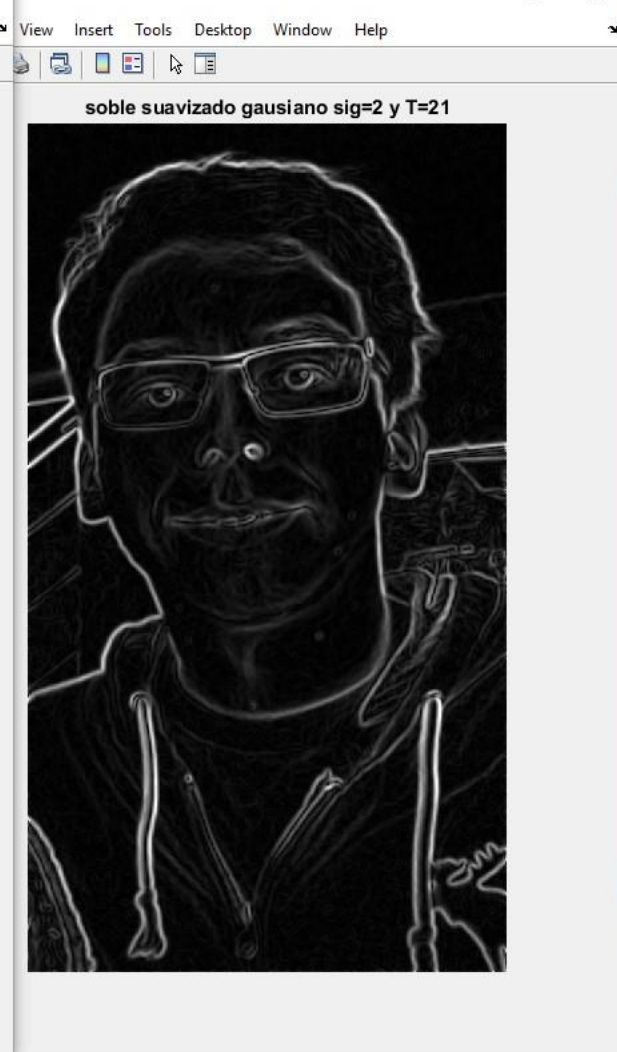
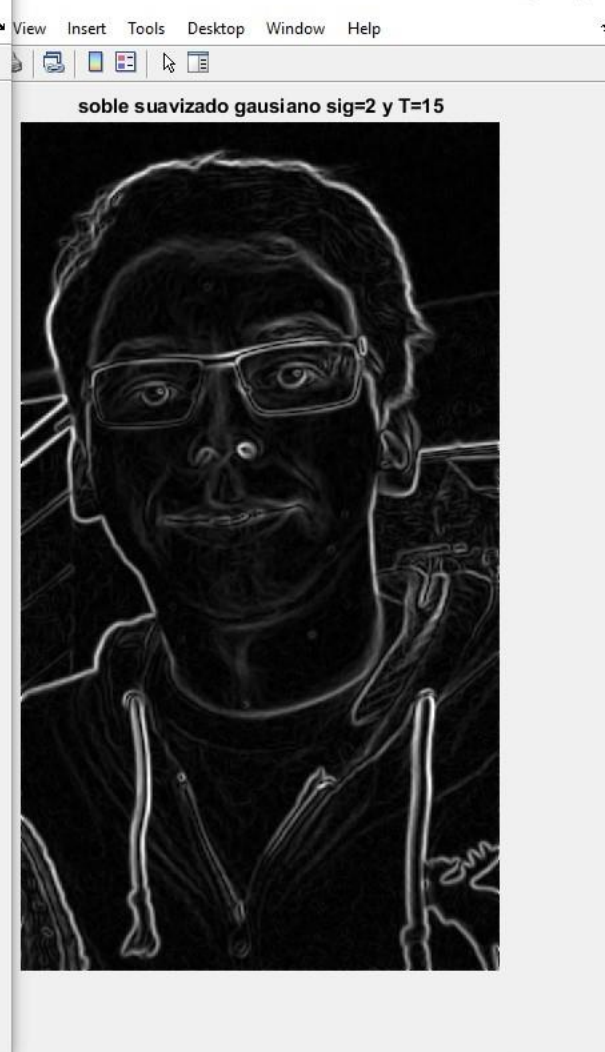
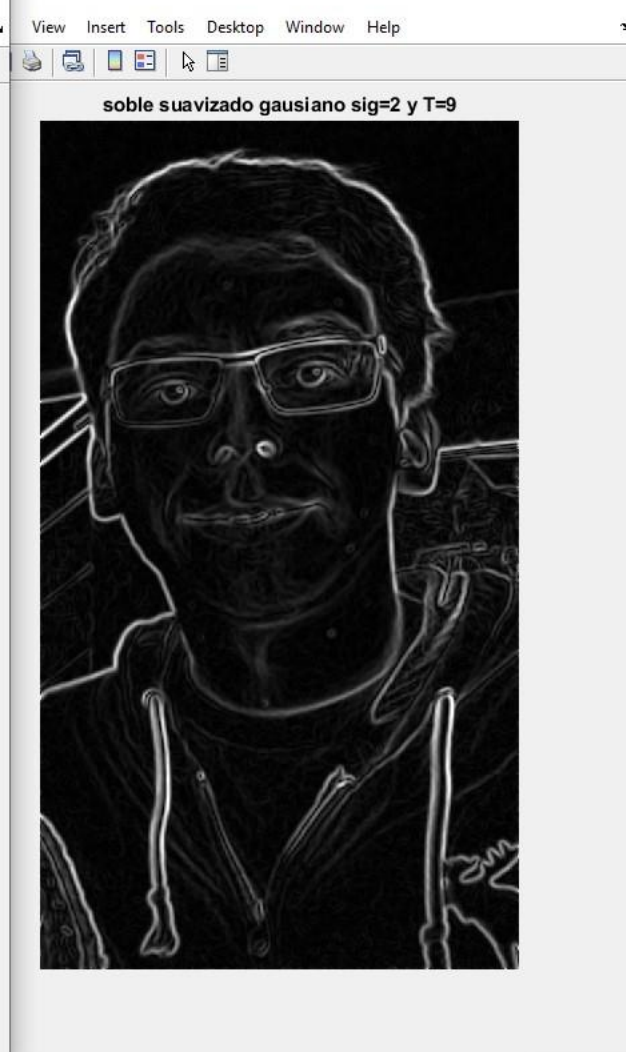
fx >>

UTF-8

script

Ln 18 Col 3

10:52 p. m. 27/10/2021



Name	Value
columnas	542
f	957x540 double
filas	957
g	955x540 double
h	21x21 double
i	947
l	21x21 double
ima	957x542x3 uint8
j	532

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mascarasobel.m

Details

Workspace

Name	Value
columnas	542
f	957x542 double
filas	957
g	955x540 double
h	21x21 double
i	947
l	21x21 double
ima	957x542x3 uint8
j	532

Editor - C:\Users\kitsu\Documents\SVA\svagauss.m

svamascaras.m

mascarasobel.m

svasuavisado.m

svagaussiano.m

filtrogaussiano.m

svagauss.m

+

```
1  clc
2  clear all
3  close all
4  %%% Ceballos Conde Emanuel
5  %%% Sistemas de vision artificial
6  %%% 4MV6 2022/1
7
8  ima=imread('C:\Users\kitsu\Documents\SVA\0.jpg');
9  f=double(rgb2gray(ima));
10
11 [filas,columnas]=size(f);
12
13 %%%filtro gausiano
14 for T=3:6:23
15     h=filtrogaussiano(T,2);
16     for i=((T+1)/2):filas-((T-1)/2)
17         for j=((T+1)/2):columnas-((T-1)/2)
18             I=f(i-((T-1)/2):i+((T-1)/2),j-((T-1)/2):j+((T-1)/2));
19             g(i-1,j-1)=sum(sum(I.*h));
20         end
21     end
22     figure,imshow(uint8(mascarasobel(g)))
23     title(strcat('soble suavizado gaussiano sig=2 y T=',num2str(T)))
24     drawnow
25 end
```

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```
fx >> |
```

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