Neeraj Appari TO13 Appari

Date 01/02/22

SHETH L.U.J. COLLEGE OF ARTS &
SIR M.V. COLLEGE OF SCIENCE & COMMERCE
Department of Computer Science

Digital Image Processing Practical -05

Aim- Linear cross correlation of a 2D matrix circular correlation between two signals and linear auto correlation of a 2D matrix, linear cross correlation of a 2D matrix

Description-

Cross correlation- Cross correlation is a measure of similarity of two series as a function of the other. This is displacement of one relative to the other. This is also known as sliding dot product or sliding linear product. This cross correlation is similar in nature to the correlation of two functions.

Circular correlation- Circular correlation, they are viewed as repetition of elements within the original range. ~~Converts~~ Conversly if computing a circular correlation, the size of matrix should be the circular correlation should be used when the signal can be viewed as periodic.

Auto correlation- Auto correlation is a mathematical representation of the degree of similarity between a given time series and a lagged version of itself over successive time intervals. Auto correlation measures the relationship between a variables current value and its past values

pract4.sce (E:\fffiiles\college pracs and projects\DIP\pract4.sce) - SciNotes

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pract4.sce (E:\fffiiles\college pracs and projects\DIP\pract4.sce) - SciNotes

pract3.sce | pract4.sce | pract5.sce

```
clc;
disp('Neeraj Appari T0732')

x=[12,5;25,8];

h1=[14,3;13,6];
h2=h1(:,$:-1:1);
h=h2($:-1:1,:);
y=conv2(x,h)

disp('linear cross relation of a 2d matrix :',y)


h=h(:,$:-1:1);
h=h($:-1:1,:);
X=fft2(x);
H=fft2(h);
Y=X.*H;
y = ifft(Y);

disp('Circular corelation between two signal:',y)


x2=x(:,$:-1:1);
x2=x2($:-1:1,:);
C=conv2(x,x2)
disp('Linear auto correltion  of a 2d matrix :',C)


h2=h(:,$: -1:1);
h3=h2($: -1:1 ,:);
y=conv2(x,h3)
disp('linear cross corelation of a 2d matrix ',y)

```

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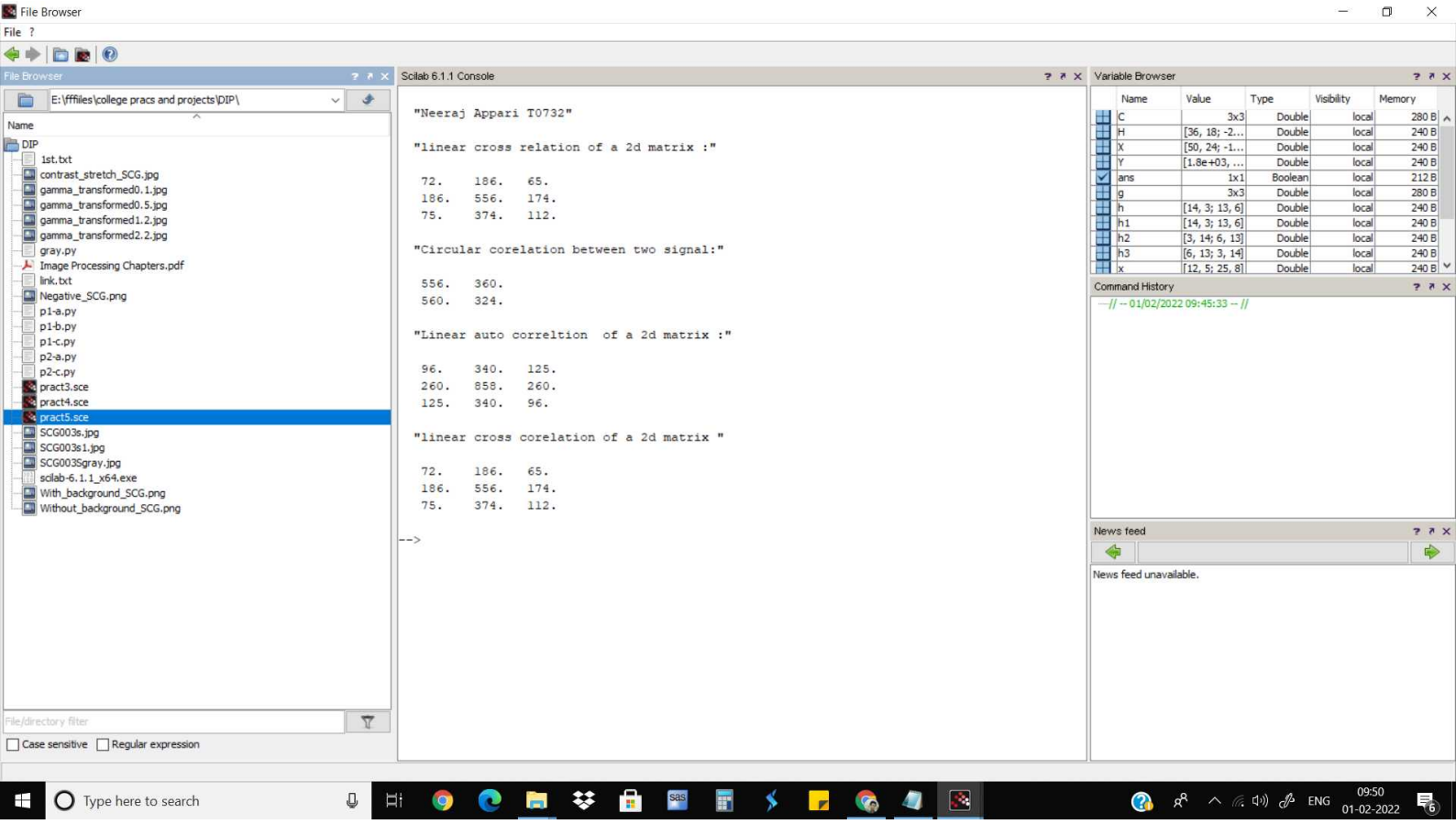
ENG 09:50 01-02-2022


File Browser
File ?
File Browser
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Name
DIP
1st.txt
contrast_stretch_SCG.jpg
gamma_transformed0.1.jpg
gamma_transformed0.5.jpg
gamma_transformed1.2.jpg
gamma_transformed2.2.jpg
gray.py
Image Processing Chapters.pdf
link.txt
Negative_SCG.png
p1-a.py
p1-b.py
p1-c.py
p2-a.py
p2-c.py
pract3.sce
pract4.sce
pract5.sce
SCG003s.jpg
SCG003s1.jpg
SCG003Sgray.jpg
scilab-6.1.1_x64.exe
With_background_SCG.png
Without_background_SCG.png
File/directory filter
Case sensitive
Regular expression
Scilab 6.1.1 Console
"Neeraj Appari T0732"
"linear cross relation of a 2d matrix :"
72. 186. 65.
186. 556. 174.
75. 374. 112.
"Circular corelation between two signal:"
556. 360.
560. 324.
"Linear auto correltion of a 2d matrix :"
96. 340. 125.
260. 858. 260.
125. 340. 96.
"linear cross corelation of a 2d matrix "
72. 186. 65.
186. 556. 174.
75. 374. 112.
-->
Variable Browser
Name
Value
Type
Visibility
Memory
C 3x3 Double local 280 B
H [36, 18; -2... Double local 240 B
X [50, 24; -1... Double local 240 B
Y [1.8e+03, ... Double local 240 B
ans 1x1 Boolean local 212 B
g 3x3 Double local 280 B
h [14, 3; 13, 6] Double local 240 B
h1 [14, 3; 13, 6] Double local 240 B
h2 [3, 14; 6, 13] Double local 240 B
h3 [6, 13; 3, 14] Double local 240 B
x [12, 5; 25, 8] Double local 240 B
Command History
// -- 01/02/2022 09:45:33 -- //
News feed
News feed unavailable.
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ENG
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01-02-2022