Code:

```
classdef Statisticalmethods < matlab.apps.AppBase
% Properties that correspond to app components
properties (Access = public)
UIFigure matlab.ui.Figure
StatisticalFeaturesDropDown matlab.ui.control.DropDown
StatisticalFeaturesDropDownLabel matlab.ui.control.Label
AnswerTextArea matlab.ui.control.TextArea
AnswerTextAreaLabel matlab.ui.control.Label
BrowseimageButton matlab.ui.control.Button
UIAxes matlab.ui.control.UIAxes
end
% Callbacks that handle component events
methods (Access = private)
% Button pushed function: BrowseimageButton
function BrowseimageButtonPushed(app, event)
global I;
[filename,filepath]=uigetfile({'*.*';'*.jpg';'*.png';'*.bmp';'*.oct'},'select
file to open');
fullname=[filepath,filename];
I=imread(fullname);
imagesc(app.UIAxes,I);
end
% Clicked callback: StatisticalFeaturesDropDown
function StatisticalFeaturesDropDownClicked(app, event)
item = event.InteractionInformation.Item;
value=app.StatisticalFeaturesDropDown.Value;
global I;
if strcmp(value,'mean')
meanval=mean2(I);
answer="mean:"+meanval;
app.AnswerTextArea.Value=answer;
elseif strcmp(value,'mode')
hist=imhist(I);
modeval=mode(hist);
answer="mode:"+modeval;
app.AnswerTextArea.Value=answer;
elseif strcmp(value,'median')
hist=imhist(I);
medianval=median(hist);
answer="median:"+medianval;
app.AnswerTextArea.Value=answer;
elseif strcmp(value,'variance')
hist=imhist(I);
varval=var(hist);
answer="variance:"+varval;
app.AnswerTextArea.Value=answer;
elseif strcmp(value,'standarddeviation')
stdval=std2(I);
```

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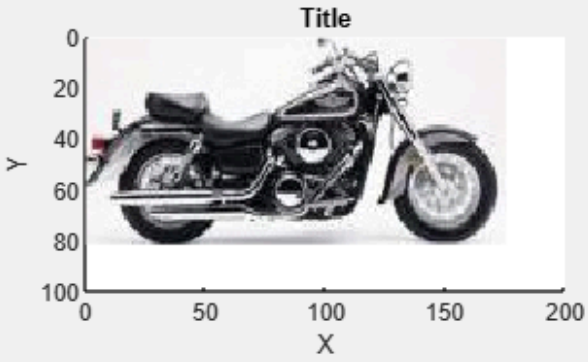
answer="standard deviation:"+stdval;
app.AnswerTextArea.Value=answer;
else
I1=im2gray(I);
[glcm,SI]=graycomatrix(I1);
answer="GLCM:"+mat2str(glcm);
app.AnswerTextArea.Value=answer;
end
end
end
% Component initialization
methods (Access = private)
% Create UIFigure and components
function createComponents(app)
% Create UIFigure and hide until all components are created
app.UIFigure = uifigure('Visible', 'off');
app.UIFigure.Position = [100 100 640 480];
app.UIFigure.Name = 'MATLAB App';
% Create UIAxes
app.UIAxes = uiaxes(app.UIFigure);
title(app.UIAxes, 'Title')
xlabel(app.UIAxes, 'X')
ylabel(app.UIAxes, 'Y')
zlabel(app.UIAxes, 'Z')
app.UIAxes.Position = [12 252 300 185];
% Create BrowseimageButton
app.BrowseimageButton = uibutton(app.UIFigure, 'push');
app.BrowseimageButton.ButtonPushedFcn = createCallbackFcn(app,
@BrowseimageButtonPushed, true);
app.BrowseimageButton.Position = [441 332 100 23];
app.BrowseimageButton.Text = 'Browse image ';
% Create AnswerTextAreaLabel
app.AnswerTextAreaLabel = uilabel(app.UIFigure);
app.AnswerTextAreaLabel.HorizontalAlignment = 'right';
app.AnswerTextAreaLabel.Position = [89 159 45 22];
app.AnswerTextAreaLabel.Text = 'Answer';
% Create AnswerTextArea
app.AnswerTextArea = uitextarea(app.UIFigure);
app.AnswerTextArea.Position = [149 123 150 60];
% Create StatisticalFeaturesDropDownLabel
app.StatisticalFeaturesDropDownLabel = uilabel(app.UIFigure);
app.StatisticalFeaturesDropDownLabel.HorizontalAlignment = 'right';
app.StatisticalFeaturesDropDownLabel.Position = [359 138 107 22];
app.StatisticalFeaturesDropDownLabel.Text = 'Statistical Features';
% Create StatisticalFeaturesDropDown
app.StatisticalFeaturesDropDown = uidropdown(app.UIFigure);
app.StatisticalFeaturesDropDown.Items = {'mean', 'mode', 'median', 'variance',
'standarddeviation', 'GLCM'};
```

```
app.StatisticalFeaturesDropDown.ClickedFcn = createCallbackFcn(app,
@StatisticalFeaturesDropDownClicked, true);
app.StatisticalFeaturesDropDown.Position = [481 138 100 22];
app.StatisticalFeaturesDropDown.Value = 'mean';
% Show the figure after all components are created
app.UIFigure.Visible = 'on';
end
end
% App creation and deletion
methods (Access = public)
% Construct app
function app = Statisticalmethods
% Create UIFigure and components
createComponents(app)
% Register the app with App Designer
registerApp(app, app.UIFigure)
if nargout == 0
clear app
end
end
% Code that executes before app deletion
function delete(app)
% Delete UIFigure when app is deleted
delete(app.UIFigure)
end
end
end
```

MATLAB App



Browse image

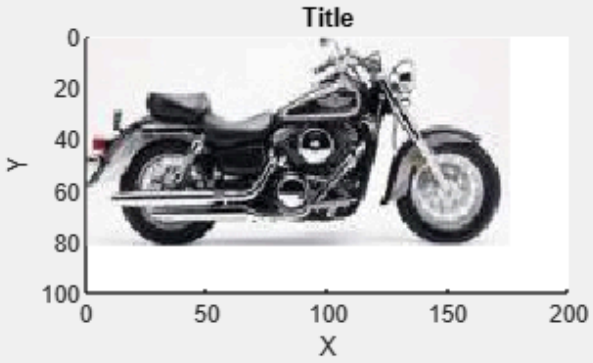
Answer

mean:166.9803

Statistical Features

mean

MATLAB App



Browse image

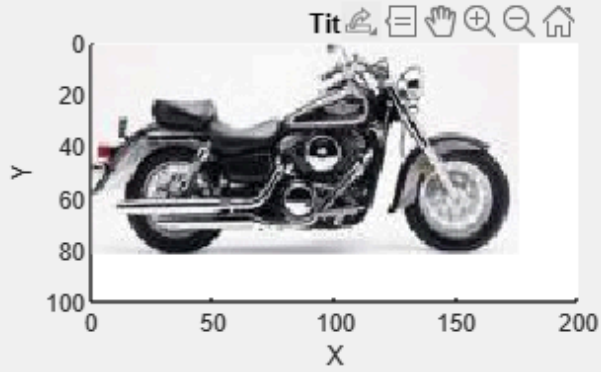
Answer

mode:83

Statistical Features

mode

MATLAB App



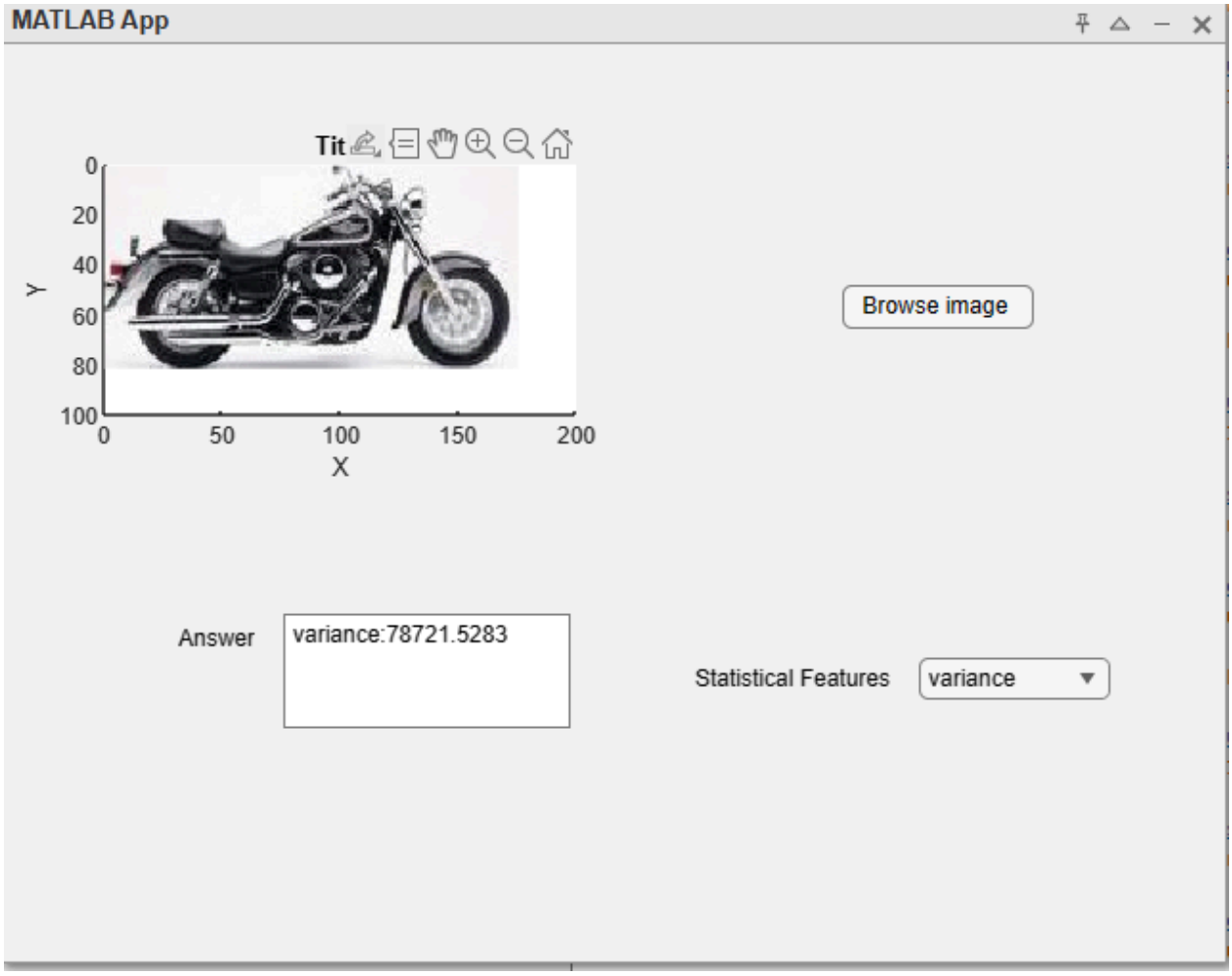
Browse image

Answer

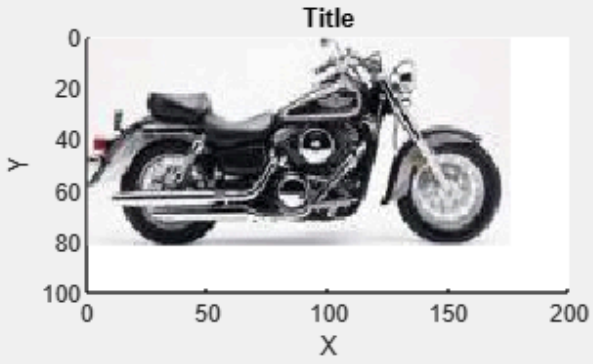
median:94

Statistical Features

median


MATLAB App
Tit
0
20
40
60
80
100
Y
0
50
100
150
200
X
Browse image
Answer
variance:78721.5283
Statistical Features
variance

MATLAB App



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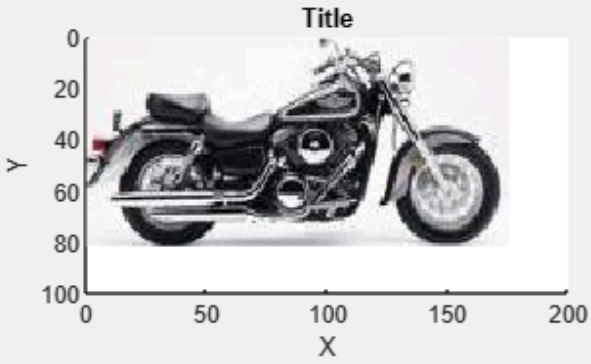
Answer

standard
deviation:87.8258

Statistical Features

standardd...

MATLAB App



Browse image

Answer

GLCM:[996 421 81 38
17 13 3 0;391 746 229
94 58 34 15 3;88 215
302 140 66 60 26

Statistical Features GLCM