

LAMPIRAN

Lampiran 1 : Program Matlab GLCM

```
myFolder = 'D:\14. UMG SABIG DETEKSI
SAK RUSAK\GUI MATLAB\bagus'; %ganti
folder tempat mengambil data citra hasil gray
dan sharp
if ~isdir(myFolder)

    errorMessage = sprintf('Error: The following folder does not exist:\n%s',
myFolder);

    uiwait(warndlg(errorMessage));

    return;

end

filePattern = fullfile(myFolder, '*.jpeg');
jpegFiles = dir(filePattern);
posisi = 1;
input=zeros(200,5);
for k = posisi:length(jpegFiles)
    baseFileName = sprintf('%d.jpeg',k);%jpegFiles(k).name;
    fullFileName = fullfile(myFolder, baseFileName);
    fprintf(1, 'Now reading %s\n', fullFileName);
    imageArray = imread(fullFileName);
    d = graycoprops(imageArray); %fungsi GLCM
    d1 = d.Contrast; %mendapatkan nilai Contrast
    d2 = d.Correlation; %mendapatkan nilai Correlation
    d3 = d.Energy; %mendapatkan nilai Energy
    d4 = d.Homogeneity; %mendapatkan nilai Homogeneity
    input(k,:) = [d1 d2 d3 d4 1]; %menyimpan nilai GLCM dalam matrix input
    imshow(imageArray);
    drawnow;
```

```

posisi = k;
end

myFolder = 'D:\14. UMG SABIG DETEKSI SAK RUSAK\GUI MATLAB\rusak';
%ganti folder tempat mengambil data citra hasil gray dan sharp
if ~isdir(myFolder)
    errorMessage = sprintf('Error: The following folder does not exist:\n%s',
myFolder);
    uiwait(warndlg(errorMessage));
    return;
end
filePattern = fullfile(myFolder, '*.jpeg');
jpegFiles = dir(filePattern);

posisi = 101;
file=1;
for k = posisi:(posisi+length(jpegFiles))-1
    baseFileName = sprintf('%d.jpeg',file);%jpegFiles(k).name;
    fullFileName = fullfile(myFolder, baseFileName);
    fprintf(1, 'Now reading %s\n', fullFileName);
    imageArray = imread(fullFileName);
    d = graycoprops(imageArray); %fungsi GLCM
    d1 = d.Contrast; %mendapatkan nilai Contrast
    d2 = d.Correlation; %mendapatkan nilai Correlation
    d3 = d.Energy; %mendapatkan nilai Energy
    d4 = d.Homogeneity; %mendapatkan nilai Homogeneity
    input(k,:) = [d1 d2 d3 d4 0]; %menyimpan nilai GLCM dalam matrix input
    imshow(imageArray);
    drawnow;
end

```

```
file=file+1;
posisi = k;
end
```

```
% jika sudah running ke empat aktifkan program save agar data variable
% matrix input.mat dapat di extract
save('input.mat')
```

Lampiran 2 : Program Matlab

```
function varargout = Bismillah_final(varargin)
% BISMILLAH_FINAL MATLAB code for Bismillah_final.fig
% BISMILLAH_FINAL, by itself, creates a new BISMILLAH_FINAL or raises
the existing
% singleton*.
%
% H = BISMILLAH_FINAL returns the handle to a new BISMILLAH_FINAL
or the handle to
% the existing singleton*.
%
% BISMILLAH_FINAL('CALLBACK',hObject,eventData,handles,...) calls the
local
% function named CALLBACK in BISMILLAH_FINAL.M with the given input
arguments.
%
% BISMILLAH_FINAL('Property','Value',...) creates a new
BISMILLAH_FINAL or raises the
% existing singleton*. Starting from the left, property value pairs are
% applied to the GUI before Bismillah_final_OpeningFcn gets called. An
```

```

% unrecognized property name or invalid value makes property application
% stop. All inputs are passed to Bismillah_final_OpeningFcn via varargin.
%
% *See GUI Options on GUIDE's Tools menu. Choose "GUI allows only one
% instance to run (singleton)".
%
% See also: GUIDE, GUIDATA, GUIHANDLES

% Edit the above text to modify the response to help Bismillah_final

% Last Modified by GUIDE v2.5 19-Jan-2021 21:32:30

% Begin initialization code - DO NOT EDIT
gui_Singleton = 1;
gui_State = struct('gui_Name',    mfilename, ...
                  'gui_Singleton', gui_Singleton, ...
                  'gui_OpeningFcn', @Bismillah_final_OpeningFcn, ...
                  'gui_OutputFcn', @Bismillah_final_OutputFcn, ...
                  'gui_LayoutFcn', [], ...
                  'gui_Callback', []);
if nargin && ischar(varargin{1})
    gui_State.gui_Callback = str2func(varargin{1});
end

if nargout
    [varargout{1:nargout}] = gui_mainfcn(gui_State, varargin{:});
else
    gui_mainfcn(gui_State, varargin{:});

```

```

end

% End initialization code - DO NOT EDIT

% --- Executes just before Bismillah_final is made visible.
function Bismillah_final_OpeningFcn(hObject, eventdata, handles, varargin)
% This function has no output args, see OutputFcn.
% hObject    handle to figure
% eventdata  reserved - to be defined in a future version of MATLAB
% handles    structure with handles and user data (see GUIDATA)
% varargin   command line arguments to Bismillah_final (see VARARGIN)

% Choose default command line output for Bismillah_final
handles.output = hObject;

% Update handles structure
guidata(hObject, handles);

% UIWAIT makes Bismillah_final wait for user response (see UIRESUME)
% uiwait(handles.figure1);

% --- Outputs from this function are returned to the command line.
function varargout = Bismillah_final_OutputFcn(hObject, eventdata, handles)
% varargout  cell array for returning output args (see VARARGOUT);
% hObject    handle to figure
% eventdata  reserved - to be defined in a future version of MATLAB
% handles    structure with handles and user data (see GUIDATA)

```

```

% Get default command line output from handles structure
varargout{1} = handles.output;

% --- Executes on button press in pushbutton1.
function pushbutton1_Callback(hObject, eventdata, handles)

while(flag==1)

end

% --- Executes on button press in pushbutton2.
function pushbutton2_Callback(hObject, eventdata, handles)
% hObject    handle to pushbutton2 (see GCBO)
% eventdata  reserved - to be defined in a future version of MATLAB
% handles    structure with handles and user data (see GUIDATA)

global startx;

startx=0;

global img;

folder_serial ='D:\14. UMG SABIG DETEKSI SAK RUSAK\GUI
MATLAB\Serial\serial.txt';

```



```
folder_klasifikasi ='D:\14. UMG SABIG DETEKSI SAK RUSAK\GUI  
MATLAB\Serial\klasifikasi.txt';
```

```
cam = webcam('GENERAL WEBCAM');  
while startx==0  
try  
A = load(folder_serial);  
%set(handles.edit9,'string',data);  
disp(A)  
catch  
end  
  
if A == 2  
img = snapshot(cam); %imread('1.jpeg'); %  
img = imresize(img,[240 320]);  
axes(handles.axes1);  
imshow(img);  
hold on;  
plot([50 50],[0 240],'r','Linewidth',2,'parent',handles.axes1);  
plot([250 250],[0 240],'r','Linewidth',2,'parent',handles.axes1);  
%clear cam;  
  
img_crop = imcrop(img,[50 0 200 240]);  
axes(handles.axes2);  
imshow(img_crop);
```

```
I_gray = rgb2gray(img_crop);  
axes(handles.axes3);  
imshow(I_gray);
```

```
BW1 = edge(I_gray,'Canny',0.5);  
axes(handles.axes4);  
imshow(BW1);
```

```
c = graycoprops(BW1);
```

```
c1 = c.Contrast;
```

```
c2 = c.Correlation;
```

```
c3 = c.Energy;
```

```
c4 = c.Homogeneity;
```

```
set(handles.edit1,'string',c1);
```

```
set(handles.edit2,'string',c2);
```

```
set(handles.edit3,'string',c3);
```

```
set(handles.edit4,'string',c4);
```

```
proses = [c1 c2 c3 c4];
```

```
load bobot
```

```
tes = proses';
```

```
yp=(sim(netWr,tes));
```



```

hasil = yp;
set(handles.edit6,'string',hasil);

if hasil<0.5
fileID = fopen(folder_klasifikasi,'w');
fprintf(fileID, '3;');
fclose(fileID);
set(handles.edit5,'string','REJECT');
disp('REJECT') %menampilkan tulisan ?start?
pause(10);
else
fileID = fopen(folder_klasifikasi,'w');
fprintf(fileID, '4;');
fclose(fileID);
set(handles.edit5,'string','GOOD');
disp('GOOD') %menampilkan tulisan ?start?
pause(10);
end
end
end
pause(0.5);
end
disp('Alhamdulillah')

% --- Executes on button press in pushbutton3.
function pushbutton3_Callback(hObject, eventdata, handles)

```

```
% hObject handle to pushbutton3 (see GCBO)
% eventdata reserved - to be defined in a future version of MATLAB
% handles structure with handles and user data (see GUIDATA)
global s flag startx
```

```
set(handles.edit1,'string','');
set(handles.edit2,'string','');
set(handles.edit3,'string','');
set(handles.edit4,'string','');
set(handles.edit5,'string','');
set(handles.edit6,'string','');
```

```
cla(handles.axes1,'reset')
cla(handles.axes2,'reset')
cla(handles.axes3,'reset')
cla(handles.axes4,'reset')
flag=0;
startx=1;
```

```
clear cam;
disp('stop') %menampilkan tulisan ?start?
```

```
function edit1_Callback(hObject, eventdata, handles)
```

```
% hObject handle to edit1 (see GCBO)
% eventdata reserved - to be defined in a future version of MATLAB
% handles structure with handles and user data (see GUIDATA)
```

```

% Hints: get(hObject,'String') returns contents of edit1 as text
%      str2double(get(hObject,'String')) returns contents of edit1 as a double

% --- Executes during object creation, after setting all properties.
function edit1_CreateFcn(hObject, eventdata, handles)
% hObject    handle to edit1 (see GCBO)
% eventdata  reserved - to be defined in a future version of MATLAB
% handles    empty - handles not created until after all CreateFcns called

% Hint: edit controls usually have a white background on Windows.
%      See ISPC and COMPUTER.
if ispc && isequal(get(hObject,'BackgroundColor'),
get(0,'defaultUicontrolBackgroundColor'))
    set(hObject,'BackgroundColor','white');
end

function edit2_Callback(hObject, eventdata, handles)
% hObject    handle to edit2 (see GCBO)
% eventdata  reserved - to be defined in a future version of MATLAB
% handles    structure with handles and user data (see GUIDATA)

% Hints: get(hObject,'String') returns contents of edit2 as text
%      str2double(get(hObject,'String')) returns contents of edit2 as a double

```

```

% --- Executes during object creation, after setting all properties.
function edit2_CreateFcn(hObject, eventdata, handles)
% hObject    handle to edit2 (see GCBO)
% eventdata  reserved - to be defined in a future version of MATLAB
% handles    empty - handles not created until after all CreateFcns called

% Hint: edit controls usually have a white background on Windows.
%    See ISPC and COMPUTER.
if ispc && isequal(get(hObject,'BackgroundColor'),
get(0,'defaultUicontrolBackgroundColor'))
    set(hObject,'BackgroundColor','white');
end

function edit3_Callback(hObject, eventdata, handles)
% hObject    handle to edit3 (see GCBO)
% eventdata  reserved - to be defined in a future version of MATLAB
% handles    structure with handles and user data (see GUIDATA)

% Hints: get(hObject,'String') returns contents of edit3 as text
%    str2double(get(hObject,'String')) returns contents of edit3 as a double

% --- Executes during object creation, after setting all properties.
function edit3_CreateFcn(hObject, eventdata, handles)
% hObject    handle to edit3 (see GCBO)
% eventdata  reserved - to be defined in a future version of MATLAB

```

```

% handles    empty - handles not created until after all CreateFcns called

% Hint: edit controls usually have a white background on Windows.

%    See ISPC and COMPUTER.

if ispc && isequal(get(hObject,'BackgroundColor'),
get(0,'defaultUicontrolBackgroundColor'))
    set(hObject,'BackgroundColor','white');
end

function edit4_Callback(hObject, eventdata, handles)
% hObject    handle to edit4 (see GCBO)
% eventdata reserved - to be defined in a future version of MATLAB
% handles    structure with handles and user data (see GUIDATA)

% Hints: get(hObject,'String') returns contents of edit4 as text
%    str2double(get(hObject,'String')) returns contents of edit4 as a double

% --- Executes during object creation, after setting all properties.
function edit4_CreateFcn(hObject, eventdata, handles)
% hObject    handle to edit4 (see GCBO)
% eventdata reserved - to be defined in a future version of MATLAB
% handles    empty - handles not created until after all CreateFcns called

% Hint: edit controls usually have a white background on Windows.

%    See ISPC and COMPUTER.

```

```

if ispc && isequal(get(hObject,'BackgroundColor'),
get(0,'defaultUicontrolBackgroundColor'))
    set(hObject,'BackgroundColor','white');
end

```

```

% --- Executes on button press in pushbutton4.

```

```

function pushbutton4_Callback(hObject, eventdata, handles)

```

```

% hObject    handle to pushbutton4 (see GCBO)

```

```

% eventdata  reserved - to be defined in a future version of MATLAB

```

```

% handles    structure with handles and user data (see GUIDATA)

```

```

function edit5_Callback(hObject, eventdata, handles)

```

```

% hObject    handle to edit5 (see GCBO)

```

```

% eventdata  reserved - to be defined in a future version of MATLAB

```

```

% handles    structure with handles and user data (see GUIDATA)

```

```

% Hints: get(hObject,'String') returns contents of edit5 as text

```

```

%    str2double(get(hObject,'String')) returns contents of edit5 as a double

```

```

% --- Executes during object creation, after setting all properties.

```

```

function edit5_CreateFcn(hObject, eventdata, handles)

```

```

% hObject    handle to edit5 (see GCBO)

```

```

% eventdata  reserved - to be defined in a future version of MATLAB

```

```

% handles    empty - handles not created until after all CreateFcns called

```



```
% Hint: edit controls usually have a white background on Windows.
```

```
% See ISPC and COMPUTER.
```

```
if ispc && isequal(get(hObject,'BackgroundColor'),  
get(0,'defaultUicontrolBackgroundColor'))
```

```
    set(hObject,'BackgroundColor','white');
```

```
end
```

```
function edit6_Callback(hObject, eventdata, handles)
```

```
% hObject handle to edit6 (see GCBO)
```

```
% eventdata reserved - to be defined in a future version of MATLAB
```

```
% handles structure with handles and user data (see GUIDATA)
```

```
% Hints: get(hObject,'String') returns contents of edit6 as text
```

```
% str2double(get(hObject,'String')) returns contents of edit6 as a double
```

```
% --- Executes during object creation, after setting all properties.
```

```
function edit6_CreateFcn(hObject, eventdata, handles)
```

```
% hObject handle to edit6 (see GCBO)
```

```
% eventdata reserved - to be defined in a future version of MATLAB
```

```
% handles empty - handles not created until after all CreateFcns called
```

```
% Hint: edit controls usually have a white background on Windows.
```

```
% See ISPC and COMPUTER.
```

```
if ispc && isequal(get(hObject,'BackgroundColor'),  
get(0,'defaultUicontrolBackgroundColor'))
```

```
    set(hObject,'BackgroundColor','white');  
end
```

```
function edit7_Callback(hObject, eventdata, handles)  
% hObject  handle to edit7 (see GCBO)  
% eventdata reserved - to be defined in a future version of MATLAB  
% handles  structure with handles and user data (see GUIDATA)  
  
% Hints: get(hObject,'String') returns contents of edit7 as text  
%       str2double(get(hObject,'String')) returns contents of edit7 as a double  
  
% --- Executes during object creation, after setting all properties.  
function edit7_CreateFcn(hObject, eventdata, handles)  
% hObject  handle to edit7 (see GCBO)  
% eventdata reserved - to be defined in a future version of MATLAB  
% handles  empty - handles not created until after all CreateFcns called  
  
% Hint: edit controls usually have a white background on Windows.  
%       See ISPC and COMPUTER.  
if ispc && isequal(get(hObject,'BackgroundColor'),  
get(0,'defaultUicontrolBackgroundColor'))  
    set(hObject,'BackgroundColor','white');  
end
```

```

function edit8_Callback(hObject, eventdata, handles)
% hObject    handle to edit8 (see GCBO)
% eventdata  reserved - to be defined in a future version of MATLAB
% handles    structure with handles and user data (see GUIDATA)

% Hints: get(hObject,'String') returns contents of edit8 as text
%        str2double(get(hObject,'String')) returns contents of edit8 as a double

% --- Executes during object creation, after setting all properties.
function edit8_CreateFcn(hObject, eventdata, handles)
% hObject    handle to edit8 (see GCBO)
% eventdata  reserved - to be defined in a future version of MATLAB
% handles    empty - handles not created until after all CreateFcns called

% Hint: edit controls usually have a white background on Windows.
%        See ISPC and COMPUTER.
if ispc && isequal(get(hObject,'BackgroundColor'),
get(0,'defaultUicontrolBackgroundColor'))
    set(hObject,'BackgroundColor','white');
end

```

```

function edit9_Callback(hObject, eventdata, handles)
% hObject    handle to edit9 (see GCBO)
% eventdata  reserved - to be defined in a future version of MATLAB

```

```

% handles    structure with handles and user data (see GUIDATA)

% Hints: get(hObject,'String') returns contents of edit9 as text
%    str2double(get(hObject,'String')) returns contents of edit9 as a double

% --- Executes during object creation, after setting all properties.
function edit9_CreateFcn(hObject, eventdata, handles)
% hObject    handle to edit9 (see GCBO)
% eventdata  reserved - to be defined in a future version of MATLAB
% handles    empty - handles not created until after all CreateFcns called

% Hint: edit controls usually have a white background on Windows.
%    See ISPC and COMPUTER.
if ispc && isequal(get(hObject,'BackgroundColor'),
get(0,'defaultUicontrolBackgroundColor'))
    set(hObject,'BackgroundColor','white');
end

```

DAFTAR RIWAYAT HIDUP

A. Biodata Pribadi

1. Nama lengkap : Afif Mussabiq
2. Tempat/ tanggal lahir : Gresik, 23 November 1996
3. Jenis Kelamin : Laki – laki
4. Kewarganegaraan : Indonesia
5. Tinggi, Berat badan : 167 cm, 99 kg
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B. Riwayat Pendidikan

1. SD : MI Al-Husna Tepen Baru 2003-2009
2. SMP : SMP N 1 Manyar 2009-2012
3. SMK : SMK N 1 Cerme 2012-2015
4. Perguruan Tinggi : Universitas Muhammdiyah Gresik,
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