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LAMPIRAN-LAMPIRAN

Listing Program

```
function varargout = menu_utama(varargin)
% MENU_UTAMA MATLAB code for menu_utama.fig
%     MENU_UTAMA, by itself, creates a new MENU_UTAMA or raises
the existing
%     singleton*.
%
%     H = MENU_UTAMA returns the handle to a new MENU_UTAMA or
the handle to
%     the existing singleton*.
%
%     MENU_UTAMA('CALLBACK',hObject,eventData,handles,...) calls
the local
%     function named CALLBACK in MENU_UTAMA.M with the given
input arguments.
%
%     MENU_UTAMA('Property','Value',...) creates a new
MENU_UTAMA or raises the
%     existing singleton*. Starting from the left, property
value pairs are
%     applied to the GUI before menu_utama_OpeningFcn gets
called. An
%     unrecognized property name or invalid value makes property
application
%     stop. All inputs are passed to menu_utama_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 menu_utama

% Last Modified by GUIDE v2.5 19-Aug-2021 21:24:07

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

```

    gui_State.gui_Callback = str2func(varargin{1});
end

if nargin
    [varargout{1:nargout}] = gui_mainfcn(gui_State, varargin{:});
else
    gui_mainfcn(gui_State, varargin{:});
end
% End initialization code - DO NOT EDIT

% --- Executes just before menu_utama is made visible.
function menu_utama_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 menu_utama (see VARARGIN)

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

% Update handles structure
guidata(hObject, handles);

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

% --- Outputs from this function are returned to the command
line.
function varargout = menu_utama_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)
% hObject    handle to pushbutton1 (see GCBO)
% eventdata  reserved - to be defined in a future version of
MATLAB
% handles    structure with handles and user data (see GUIDATA)

```

```

close;
guidata(cloahe_gaussian_citra_CCTV);
% --- Executes on button press in pushbutton2.

% --- 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)
close;
guidata(tentang_penulis);

function varargout = tentang_penulis(varargin)
% TENTANG_PENULIS MATLAB code for tentang_penulis.fig
%    TENTANG_PENULIS, by itself, creates a new TENTANG_PENULIS
or raises the existing
%    singleton*.
%
%    H = TENTANG_PENULIS returns the handle to a new
TENTANG_PENULIS or the handle to
%    the existing singleton*.
%
%    TENTANG_PENULIS('CALLBACK',hObject,eventData,handles,...)
calls the local
%    function named CALLBACK in TENTANG_PENULIS.M with the
given input arguments.
%
%    TENTANG_PENULIS('Property','Value',...) creates a new
TENTANG_PENULIS or raises the
%    existing singleton*. Starting from the left, property
value pairs are
%    applied to the GUI before tentang_penulis_OpeningFcn gets
called. An
%    unrecognized property name or invalid value makes property
application
%    stop. All inputs are passed to tentang_penulis_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
tentang_penulis

```

```

% Last Modified by GUIDE v2.5 04-Mar-2021 01:56:16

% Begin initialization code - DO NOT EDIT
gui_Singleton = 1;
gui_State = struct('gui_Name',       mfilename, ...
                  'gui_Singleton',  gui_Singleton, ...
                  'gui_OpeningFcn', @tentang_penulis_OpeningFcn,
                  ...
                  'gui_OutputFcn',  @tentang_penulis_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 tentang_penulis is made visible.
function tentang_penulis_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 tentang_penulis (see
VARARGIN)

% Choose default command line output for tentang_penulis
handles.output = hObject;
% Update handles structure
guidata(hObject, handles);

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

% --- Outputs from this function are returned to the command
line.
function varargout = tentang_penulis_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 slider movement.
function slider1_Callback(hObject, eventdata, handles)
% hObject    handle to slider1 (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,'Value') returns position of slider
%        get(hObject,'Min') and get(hObject,'Max') to determine
range of slider

% --- Executes during object creation, after setting all
properties.
function slider1_CreateFcn(hObject, eventdata, handles)
% hObject    handle to slider1 (see GCBO)
% eventdata reserved - to be defined in a future version of
MATLAB
% handles    empty - handles not created until after all
CreateFcns called

% Hint: slider controls usually have a light gray background.
if isequal(get(hObject,'BackgroundColor'),
get(0,'defaultUicontrolBackgroundColor'))
    set(hObject,'BackgroundColor',[.9 .9 .9]);
end

% --- 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)
close;
guidata(menu_utama);

function varargout = clahe_gaussian_citra_CCTV(varargin)
% CLAHE_GAUSSIAN_CITRA_CCTV MATLAB code for
clahe_gaussian_citra_CCTV.fig
%        CLAHE_GAUSSIAN_CITRA_CCTV, by itself, creates a new
CLAHE_GAUSSIAN_CITRA_CCTV or raises the existing
%        singleton*.

```

```

%      H = CLAHE_GAUSSIAN_CITRA_CCTV returns the handle to a new
CLAHE_GAUSSIAN_CITRA_CCTV or the handle to
%      the existing singleton*.
%
CLAHE_GAUSSIAN_CITRA_CCTV('CALLBACK',hObject,eventData,handles,..
.) calls the local
%      function named CALLBACK in CLAHE_GAUSSIAN_CITRA_CCTV.M
with the given input arguments.
%
%      CLAHE_GAUSSIAN_CITRA_CCTV('Property','Value',...) creates
a new CLAHE_GAUSSIAN_CITRA_CCTV or raises the
%      existing singleton*. Starting from the left, property
value pairs are
%      applied to the GUI before
clahe_gaussian_citra_CCTV_OpeningFcn gets called. An
%      unrecognized property name or invalid value makes property
application
%      stop. All inputs are passed to
clahe_gaussian_citra_CCTV_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
clahe_gaussian_citra_CCTV

% Last Modified by GUIDE v2.5 20-Aug-2021 14:43:29

% Begin initialization code - DO NOT EDIT
gui_Singleton = 1;
gui_State = struct('gui_Name',       mfilename, ...
                  'gui_Singleton',   gui_Singleton, ...
                  'gui_OpeningFcn',  @clahe_gaussian_citra_CCTV_OpeningFcn, ...
                  'gui_OutputFcn',   @clahe_gaussian_citra_CCTV_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 clahe_gaussian_citra_CCTV is made
visible.
function clahe_gaussian_citra_CCTV_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 clahe_gaussian_citra_CCTV
(see VARARGIN)

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

% Update handles structure
guidata(hObject, handles);

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

% --- Outputs from this function are returned to the command
line.
function varargout = clahe_gaussian_citra_CCTV_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)
% hObject    handle to pushbutton1 (see GCBO)
% eventdata  reserved - to be defined in a future version of
MATLAB
% handles    structure with handles and user data (see GUIDATA)
[nama_file,nama_path] = uigetfile('*.jpg'); % Membuka pencarian
citra khusus .JPG
if ~isequal(nama_file,0)

```

```

    I = imread(fullfile(nama_path,nama_file)); % Membaca nama
file citra
    [row,col,~] = size(I); % membaca ukuran matrik citra
    axes(handles.axes2) % Menyimpan citra yang dipilih pada
handles
    imshow(I) % menampilkan citra yang dipilih pada box axes1
    axes(handles.axes4) %menyimpan histogram citra AWAL kedalam
axes
    imhist (I); %mencari nilai histogram citra AWAL
    set(handles.text8,'String',row); % menampilkan ukuran
baris file citra
    set(handles.text9,'String',col); % menampilkan ukuran
kolom file citra

    set(handles.text7,'String',nama_file); % menampilkan nama
file citra pada text7
    handles.I = I; % menyimpan citra kedalam handles agar bisa
dipanggil pada fungsi lain
    guidata(hObject,handles)
else
    return
end

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

```

```

% --- 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)
I = handles.I; %memanggil citra asli
LAB = rgb2lab(I); % merubah citra RGB kebentuk citra LAB
L = LAB(:,:,1)/100;
L = adapthisteq(L,'NumTiles',[5 5],'ClipLimit',0.005); % Eksekusi
citra CCTV untuk meningkat kontras dengan CLAHE
% "adapthisteq" adalah Library CLAHE Pada MATLAB
% region tile yang dipakai [5 5], cliplimit yang dipakai 0.005
LAB(:,:,1) = L*100;
J = lab2rgb(LAB); % Hasil Citra CLAHE
handles.J = J; %Menyimpan hasil Citra CLAHE kehandles
guidata(hObject,handles) %menyimpan kedalam guidata agar bisa
digunakan pada fungsi lain
axes(handles.axes6) %menyimpan citra CLAHE kedalam axes
imshow(J) %menampilkan citra CLAHE
axes(handles.axes9) %menyimpan histogram citra CLAHE kedalam
axes
imhist (J); %mencari nilai histogram citra CLAHE

% --- 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)
J = handles.J; %memanggil citra CLAHE
[row,col,~] = size(J); %membaca ukuran baris dan kolom citra
CLAHE
gaussian = imgaussfilt(J,1); %melakukan filter gaussian dengan
sigma 1
% "imgaussfilt" adalah library untuk fitur gaussian pada MATLAB
handles.gaussian = gaussian; %membaca citra CLAHE gaussian
guidata(hObject,handles) %menyimpan kedalam guidata
axes(handles.axes7) %menyimpan citra CLAHE gaussian kedalam
axes
imshow(gaussian) %menampilkan citra CLAHE gaussian
axes(handles.axes10) %menyimpan histogram citra CLAHE
gaussian
imhist (gaussian); %mencari nilai histogram citra CLAHE
gaussian
MSE = sum(sum((J-gaussian).^2))/(row*col); %mencari nilai MSE
citra berdasarkan perbandingan citra CLAHE dan gaussian
PSNR = 10*log10(256*256/MSE); %mencari nilai PSNR citra
berdasarkan perbandingan citra CLAHE dan gaussian

```

```

        set(handles.edit2,'String',max (MSE)) %menampilkan nilai MSE
        set(handles.edit3,'String',max (PSNR))%menampilkan nilai PSNR

% --- 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)
save = handles.J; %menyimpan citra CLAHE DAN gaussian
[name_file_save,path_save] = uiputfile( ...
    {'*.jpg','File jpeg (*.jpg)';...
    '*..*','All Files (*.*)'},...
    'Save Image');
if ~isequal(name_file_save,0)
    imwrite(save,fullfile(path_save,name_file_save));
else
    return
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 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









```







KARTU BIMBINGAN

KARTU BIMBINGAN SKRIPSI
Semester Gasal/Genap Tahun Akademik _____ / _____

Nama : <u>MURUL HADIMULIAMI</u>	Pembimbing I : <u>Dr. Mhd. Fauzan, S.G., M.Comp, S.C.</u>
NIM : <u>010162042</u>	Pembimbing II : <u>Armanasuch, M.Kom</u>
Prog. Studi : <u>INMU KOMPUTER</u>	SK Pembimbing :
Judul Skripsi : <u>PENYEBARAN METODE CONTRAST LIMITED ADAPTIVE HISTOGRAM EQUALIZATION (CLAHE) DAN GAUSSIAN FILTER UNTUK PENINGKATAN KUALITAS CITRA CCTV</u>	

P E R T	PEMBIMBING I			PEMBIMBING II		
	Tgl.	Materi Bimbingan	Tanda Tangan	Tgl.	Materi Bimbingan	Tanda Tangan
I	<u>22/06/2020 23/06/2020</u>	<u>Bimbingan Bab I, II, III</u>		<u>22/06/2020</u>	<u>Kirim file Bab I</u>	
II	<u>23/06/2020</u>	<u>ACC Sempro</u>		<u>23/06/2020 21/06/2020</u>	<u>Revisi Bab I</u>	
III				<u>6/01/2021</u>	<u>Kirim file Bab II</u>	
IV				<u>09/01/2021</u>	<u>Kirim file Bab III</u>	
V				<u>09/01/2021</u>	<u>Revisi Bab II, III</u>	
				<u>18/01/2021</u>	<u>ACC Sempro</u>	

Laporan Kegiatan Akademik Mahasiswa Fakultas SAINTEK UIN-SU Cirebon | 28

VI	02/ 09/ 2021	Bimbingan Bab IV - V		26/ 08/ 2021	Bimbingan Bab IV - V	
VII	02/ 09/ 2021	ACC Sidang Munasyah		27/ 08/ 2021	ACC Sidang	



DAFTAR RIWAYAT HIDUP



DATA DIRI

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NAMA ORANGTUA

Ayah : Hariadi Saputra
Ibu : Hamidawati

PENDIDIKAN FORMAL

SD : SDN AFD C 095203 Balimbingan
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SMA : MAS PP. Ar-Raudlatul Hasanah Medan