


LAMPIRAN-LAMPIRAN

Lampiran 1. Daftar Riwayat Hidup

DATA PRIBADI		
Nama	: Ahmad Rif'an Firdaus	
NIM	: 201769040049	
Tempat,tanggal lahir	: Pasuruan, 22 Agustus 1999	
Jenis Kelamin	: Laki-Laki	
Agama	: Islam	
Perguruan Tinggi	:Universitas yudharta Pasuruan	
Fakultas	: Teknik	
Program Studi	: Teknik Informatika	
Email	: rifanfirdaus38@gmail.com	
Alamat	:Desa Pekoren, Kecamatan Rembang, Pasuruan	

RIWAYAT PENDIDIKAN

- SDN 1 Pekoren 2005-2011
- SMPN 2 Bangil 2011-2014
- SMAN 1 Bangil 2014-2017
- Universitas Yudharta Pasuruan 2017-2021

Lampir 2. Kartu Seminar

KARTU SEMINAR

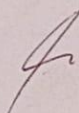
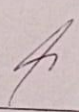
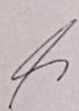
Nama : Ahmad Rif'an Firdaus
 Nim : 20176010049
 Prodi : Informatika
 Fakultas : Teknik











NO	Tanggal	Judul Seminar yang diikuti	Dosen Pendamping	Tanda Tangan	Keterangan
1	19 April 2018	Klasifikasi tumor otak menggunakan data MRI dengan metode Support Vector Machine	Arif Tri Arsanto		Reduwaniti
2	19 April 2018	Aplikasi Pembelajaran Bahasa Arab untuk anak usia dini dengan speech recognition	Arif Tri Arsanto		Ahmad Yunus
3	19 April 2018	Aplikasi mobile augmented reality berbasis android sebagai media pendukung pembelajaran di SMK Pempinjan	M. Lutfi M. Kom		Ulfaah Almasyiah
4	19 April 2018	Sejarah dan perkembangan jaringan komputer untuk meningkatkan kualitas supply chain di metode kecerdasan	M. Lutfi M. Kom		Azzahra Laili
5	19 April 2018	Aplikasi pembelajaran bahasa Inggris berbasis android menggunakan speech recognition	M. Lutfi M. Kom		Rizqul Anugrah Harah
6	19 April 2018	Optimasi parameter support vector machine dengan relief untuk prediksi penyakit diabetes mellitus	M. Lutfi M. Kom		Azzah Erena Saraswati
7					
8					
9					
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







Catatan : kartu ini digandakan dan di lampirkan sebagai syarat ujian skripsi
 Syarat ujian skripsi Minimal Mengikuti 5 kali Seminar




Lampiran 3. LEMBAR BIMBINGAN SKRIPSI

Nama : Ahmad Rif'an Firdaus
NIM : 201769040049
Jurusan : Teknik Informatika
Konsentrasi : Jaringan
Judul : Klasifikasi Jenis Tanaman Kelengkeng Berdasarkan Ciri Tekstur Daun Menggunakan Metode *Adaptive Neuro Fuzzy Inference System* (Anfis)

Hari	Tanggal	BAB	Materi Bimbingan	Tanda Tangan
Rabu	24 Februari 2021	Penyusunan dan pengajuan judul	Penyusunan Dan Pengajuan Judul	
Sabtu	27 Februari 2021	Revisi Metode	Re-focussing Research Trends Topic	
Minggu	28 Februari 2021	Acc Judul & Pengajuan Bab 1	Progress Bab 1	

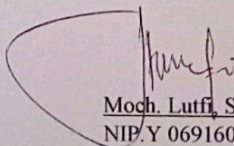
Rabu	03 Maret 2021	Revisi Bab 1 & Pengajuan Bab 2	Revisi Bab 1 dan Progress Bab 2	
Sabtu	06 Maret 2021	Progress Bab 2	Progress Bab 2	
Minggu	07 Maret 2021	Revisi Bab 2	Revisi Bab 2	
Rabu	10 Maret 2021	Analisa Dataset	Analisa Data uji	
Sabtu	13 Maret 2021	Analisa Dataset	Analisa Data Uji dan NormalisasiData	
Rabu	17 Maret 2021	Pengajuan Bab 3	Progress Bab 3	
Sabtu	20 Maret 2021	Progress Bab 3	Progress Bab 3	
Rabu	24 Maret 2021	Revisi Bab 3	Revisi Bab 3	
Sabtu	27 Maret 2021	Revisi Bab 3	Revisi Bab 3	
Sabtu	01 Mei 2021	Revisi Proposal Skripsi	Revisi Proposal Skripsi	

Rabu	26 Mei 2021	Revisi Proposal Skripsi	Revisi Proposal Skripsi	
Sabtu	29 Mei 2021	Implementasi Algoritma	Analisis Pra Implementasi Algoritma	
Rabu	02 Juni 2021	Implementasi Algoritma + Analisa Preprocessing	Implementasi Algoritma + Analisa Preprocessing	
Minggu	06 Juni 2021	Penyusunan Source Code	Penyusunan Sourcecode Uji Dataset	
Sabtu	12 Juni 2021	Penyusunan Source Code	Penyusunan Sourcecode Uji Dataset	
Rabu	16 Juni 2021	Pengujian I Source Code	Pengujian I Sourcecode Uji Dataset	
Minggu	20 Juni 2021	Pengujian II Source Code	Pengujian II Sourcecode Uji Dataset	
Rabu	07 Juli	Cek Hasil Uji	Cek Hasil Uji	

	2021	Algoritma	Algoritma	
Minggu	11 Juli 2021	Penyusunan Proposal & Cek Uji Algoritma	Penyusunan Proposal & Cek Uji Algoritma	
Sabtu	17 Juli 2021	Revisi Laporan Skripsi	Revisi Laporan Skripsi	
Selasa	20 Juli 2021	Revisi Laporan Skripsi	Revisi Laporan Skripsi	

Pasuruan, 24 Agustus 2021

Pembimbing,



Moch. Lutfi, S.Kom., M.Kom.,
NIP.Y 0691603004

Lampiran 4. Lembar Bebas Plagiasi



UNIVERSITAS YUDHARTA PASURUAN FAKULTAS TEKNIK

Kantor Pusat :
Jl. Yudharta No. 07 (Pesantren Ngalah) Sengonagung Purwosari Pasuruan Telp./ Fax. 0343-611186
e-mail: fakultasteknik@yudharta.ac.id

SURAT KETERANGAN BEBAS PLAGIASI

Nomor : 0308/S9/FT.UYP/II/08/2021

Yang bertanda tangan dibawah ini:

Nama : Misbach Munir, ST., MT
NIP.Y : 0690201015
Jabatan : Dekan Fakultas Teknik

Dengan ini menerangkan bahwa skripsi atas nama mahasiswa :

Nama : Ahmad Rif'an Firdaus
NIM : 201769040049
Prodi : Teknik Informatika
Judul Skripsi : KLASIFIKASI JENIS TANAMAN KELENGKENG BERDASARKAN CIRI
TEKSTUR DAUN MENGGUNAKAN METODE *ADAPTIVE NEURO FUZZY
INFERENCE SYSTEM* (ANFIS)
Hasil Plagiasi : 18%

Demikian surat keterangan ini kami buat untuk digunakan sebagaimana mestinya.

Pasuruan, 23 Agustus 2021
Dekan Fakultas Teknik

Misbach Munir, ST., MT.
NIP.Y. 0690201015

Lampiran 5. SOURCE CODE KESELURUHAN

Resize Citra

```
image_folder = 'D:\Coding\New folder';
filenames = dir(fullfile(image_folder,
'*.*jpg'));
total_images = numel(filenames);

for n = 1:total_images
    full_name= fullfile(image_folder,
filenames(n).name);
    img = imread(full_name);
    imgres = imresize(img,[500 500]);
    rotate = imrotate(imgres,270);

    disp (fprintf('Telah Selesai : %s',
filenames(n).name));
    image_folder_b = 'D:\Coding\New folder';
    fullFileName = fullfile(image_folder_b,
filenames(n).name);
    imwrite(rotate, fullFileName); %variable yg
akan disimpan
end
```

Cropping Citra

```
image_folder = 'D:\Coding\New folder';
image_target = 'D:\Coding\New folder';
filenames = dir(fullfile(image_folder,
'*.*jpg'));
total_images = numel(filenames);
for i=1 : total_images
    full_name= fullfile(image_folder,
filenames(i).name);
    Img = imread(full_name);
```



```

% Color-Based Segmentation Using K-Means
Clustering
cform = makecform('srgb2lab');
lab = applycform(Img,cform);
ab = double(lab(:,:,2:3));
nrows = size(ab,1);
ncols = size(ab,2);
ab = reshape(ab,nrows*ncols,2);

nColors = 2;
[cluster_idx, cluster_center] =
kmeans(ab,nColors,'distance','sqEuclidean', ...
'Replicates',3);

pixel_labels =
reshape(cluster_idx,nrows,ncols);
RGB = label2rgb(pixel_labels);

segmented_images = cell(1,3);
rgb_label = repmat(pixel_labels,[1 1 3]);

for k = 1:nColors
    color = Img;
    color(rgb_label ~= k) = 0;
    segmented_images{k} = color;
end
% daun segmentation
area_cluster1 = sum(find(pixel_labels==1));
area_cluster2 = sum(find(pixel_labels==2));

[~,cluster_apel] =
min([area_cluster1,area_cluster2]);
daun_bw = (pixel_labels==cluster_daun);
daun_bw = imfill(daun_bw,'holes');
daun_bw = bwareaopen(daun_bw,1000);

```

```

apel = Img;
R = daun(:, :, 1);
G = daun(:, :, 2);
B = daun(:, :, 3);
R(~daun_bw) = 255;
G(~daun_bw) = 255;
B(~daun_bw) = 255;
daun_rgb = cat(3, R, G, B);

bw = im2bw(daun_rgb, .9);
bw = imcomplement(bw);
bw = imfill(bw, 'holes');

blobMeasurements = regionprops(bw, 'all');
%numberOfBlobs = size(blobMeasurements, 1);
% Loop through all blobs.
% Find the bounding box of each blob.
thisBlobsBoundingBox =
blobMeasurements.BoundingBox; % Get list of
pixels in current blob.

% Extract out this coin into it's own image.
subImage = imcrop(apel_rgb,
thisBlobsBoundingBox);

imwrite(subImage, strcat(image_target, filenames(i)
).name));
disp(sprintf('Telah Selesai : %s',
filenames(i).name));
end

```

Ekstraksi Ciri GLCM

```
fiturTrain = []; % array menyimpan nilai fitur
Train sementara
folderTrain =
['D:\Coding\hasil\SemuaData\SemuaDataPer30'];
%folder data latih

dirFolder = dir((folderTrain));

for i = 1:length(dirFolder)
    F_name = dirFolder(i).name;
    dirFile = dir([folderTrain,
'\',F_name, '*.jpg']);
    hm = length(dirFile);
    for j = 1:hm % looping get file inside folder
        data(j).file_name = dirFile(j).name;
        data(j).file_location = [folderTrain,
'\',F_name, '\',data(j).file_name];
        source = imread(data(j).file_location); %
Read All Image PNG

        % Parameter GLCM Data Train
        layer = rgb2gray(source);
        %layer = source(:,:,1) % layer warna RGB
(1 = RED, 2 = GREEN, 3 = BLUE)
        %layerWarna = edge(layer, 'canny'); %
edge detection ('canny', 'sobel', 'prewitt')
        %source2 = imresize(layer, [100 100]); %
resize (128 to 100)
        glcm = graycomatrix(layer, 'Offset', [0
1]);
        % Jarak Sudut GLCM (D = Jarak tiap Pixel
yang dicari)
        % 0'      [0 D]
        % 45'     [-D D]
        % 90'     [-D 0]
        % 135'    [-D -D]
```

```

        [haralick] =
haralickTextureFeatures(glcm); % ekstraksi fitur
GLCM Haralick (14 fitur)
        group = cell(40, 1); % TOTAL 50 data
        % label gestur angka pada tangan ==>
group(Xawal, Xakhir) = {'X'};
        group(1:250) = {'A'}; % Label Citra A
        group(251:500) = {'B'}; % Label Citra B
        group(501:750) = {'C'}; % Label Citra C
        group(751:1000) = {'D'}; % Label Citra D

        % Klasifikasi Data Train (Proses
pengenalan ke komputer)
        if(j>= 1 && j <= 250)
            data(j).class = 'A'; % Label Citra A
        elseif(j>=251 && j <= 500)
            data(j).class = 'B'; % Label Citra B
        elseif(j>=501 && j <= 750)
            data(j).class = 'C'; % Label Citra C
        elseif(j>=751 && j <= 1000)
            data(j).class = 'D'; % Label Citra D
        end
        data(j).class = group;
        data(j).ciri = haralick; % Save Ekstraksi
ciri GLCM Haralick
        fiturTrain = [fiturTrain; data(j).ciri];
% Save Hasil Ekstraksi Ciri tiap File Gambar
        end
end

x = struct2table(data); % export data menjadi
Tabel
writetable(x, 'EkstraksiCiriDataUji2.xlsx'); %
Export ke Excel
save dbFitur.mat group fiturTrain; % Save Nilai
Fitur Train ke dalam dbFitur.mat

disp('Ekstraksi Berhasil')

```

Normalisasi Data

```
clear;
close all;
clc;

data = xlsread('SemuaData',1, 'A1:E160');

max_data = max(max(data));
min_data = min(min(data));

[m,n] = size(data);
data_norm = zeros(m,n);
for x = 1:m
    for y = 1:n
        data_norm(x,y) = (data(x,y) -
min_data) / (max_data - min_data);
    end
end
```