ROI of Palmprint Images

version 2.1 (1.22 MB) by Sudaraka Mallawaarachchi

Matlab function to detect the Region of Interest (ROI) of Palm-print images in the CASIA Database

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□□□□□
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Overview | Functions

Locating the ROI of Palmprint images is a popular problem in biometrics and image processing. This is the primary step in developing a biometric system based on palmprint image recognition.
The code provided here attempts to locate the ROI of a given palm print image (either left hand or right hand), assuming that the naming convention used by CASIA database is maintained.
Simple alternations of the code should make it usable even for images outside this database. The current code checks the file name to classify the image as either left hand or right hand.
The output ROI will be a 192x192 (uint8) segment of the input image.

The method employed is simple and aimed to provide an efficient calculation. However, further optimizations should be possible since these requirements were not looked into in this version.
Please refer the reference given below for a step-by-step approach to the ROI detection.

You can browse the entire CASIA database at: http://www.cbsr.ia.ac.cn/english/Palmprint%20Databases.asp

References: David Zhang, Wai-Kin Kong, Jane You and Michael Wong, Online Palmprint Identification, published in IEEE Transactions on Pattern Analysis and Machine Intelligence (PAMI) Vol. 25, No. 9, September 2003

Sudaraka Mallawaarachchi - 23/07/2015

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carson soh
23 Nov 2016

I using CASIA Multi Spectral Palm Print Database

carson soh
23 Nov 2016

I using your coding on the ROI part, but i faced alot of problem which is the error on
1) Expected MinPeakDistance to be a scalar with value < 7.
2) Index exceeds matrix dimension.
3) Wrong ROI taken.

carson soh
22 Nov 2016

Dear Sir, thank you very much for supporting the coding. I would like to ask is this work on the multi spectral palm vein image? (For the extraction of ROI region)

Subhash Singh
8 Oct 2016

★★★★★

Adi Cohen
7 Jun 2016

★★★★★

Gaurav Singh
25 Apr 2016

Sir,

I have a small doubt, how do i use "bemd" function and what is it suppose to perform.

However, "DetectROI" function is very accurate and it serves the purpose.

Sudaraka Mallawaarachchi
12 Aug 2015

Hello Sen,

Yes, I think you are correct. I will upload the corrected version asap.

The functions must still be working without an issue, just the outputs are mixed up I think...

Thank you very much for all the support :)

sen
8 Aug 2015

Dear Sir

Thank you for your reply! I have some other questions.In line 16 I think it should be "ROIR(i).image", and line 23 should be "ROIL(i).image", line 24 should be "num2str(j)",so are in line 31,40, and 43, am I right? Thank you very much!

Sudaraka Mallawaarachchi
6 Aug 2015

Hello Sen,

Yes, you are correct, it is my mistake, the ROI size should be 192x192, not 128x128. I'll fix that and upload again.

Thank you for the support :)

sen
29 Jul 2015

★★★★★

Dear Sir
Your code is very nice.I have a question that in your code ROI size is 128 firstly(line 5 and 6 in "sample_test.m"),but at last the size is 192(line 8 and 9),why?

sen
29 Jul 2015

★★★★★

Sudaraka Mallawaarachchi
23 Jul 2015

Hello,
I have addressed all your issues and uploaded an improved code. Please check it out.

Thank you

A B
28 Jun 2015

please could you send me your paper at amm.amina85@gmail.com

Purvi Shetty
6 Apr 2015

Please could you mail me your paper at
purvishetty24@gmail.com

SEB MED
1 Jun 2014

i want to do my project of master computing

Updates

6 Aug 2015	2.1	Corrected a small issue with respect to the palm print size. Will not have an impact on the output...
23 Jul 2015	2.0	Updated image, included reference and improved the ROI detection accuracy and added an edge detector useful for authentication

Requires

Image Acquisition Toolbox

Image Processing Toolbox

MATLAB Release

MATLAB 8.1 (R2013a)

Tags Add Tags

authentication | edge | palm print | roi | security

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Acknowledgements

Inspired: Combining Left and Right Palmprint Images for More Accurate Personal Identification

Functions/bemd/

```
%%
function [ imf_matrix ] = bemd( input_ima
```