

Attrasoft ImageIdentifier ImageTrainer User's Guide

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I. Introduction

Attrasoft ImageIdentifier and ImageTrainer work together.

ImageIdentifier identifies an image based sample segments provided by ImageTrainer.

ImageTrainer selects sample image segments to be used by ImageIdentifier from sample images. This selection is a manual process. The advantage of this manual selection is higher image identification rate.

Attrasoft has several similar software,

- ImageFinderLite and
- ImageFinderSeg.

ImageFinderLite matches whole images against whole images.

ImageFinderSeg matches an image segment against images.

The difference between ImageFinderSeg and ImageTrainer/ImageIdentifier are:

- ImageFinderSeg selects an image segment (*.jpg file) as the search criteria, while ImageTrainer manually selects an image segment with a long training process;
- ImageTrainer/ImageIdentifier combination is far more accurate than ImageFinderSeg.

I.1 Install software

To install the software:

- Drag and drop the folder, Attrasoft TrainerIdentifier, to C: drive or desktop;
- Click ImageIdentifier.exe to run ImageIdentifier;
- Click ImageTrainer.exe to run ImageTrainer.

II. ImageIdentifier

II.1 Single Image Identification

1. Start the software (See Figure 1)

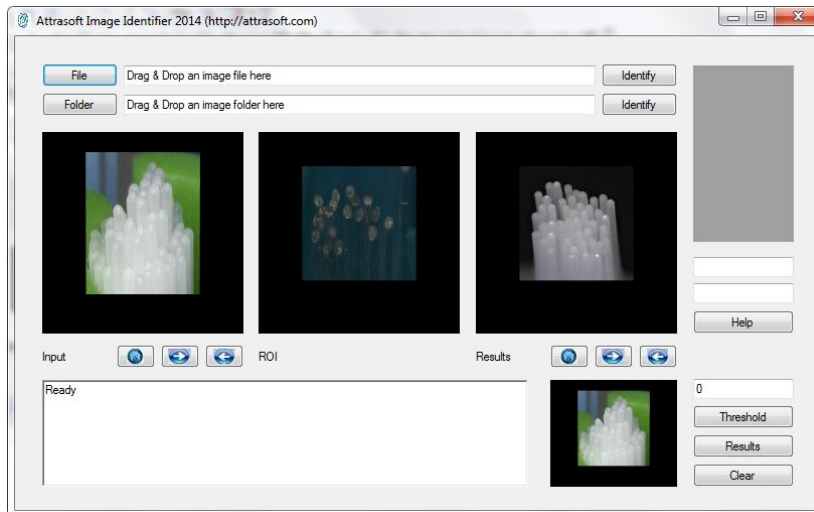


Figure 1. ImageIdentifier

2. Drag and drop an image into the first text box (See Figure 2) and the image identification will start.

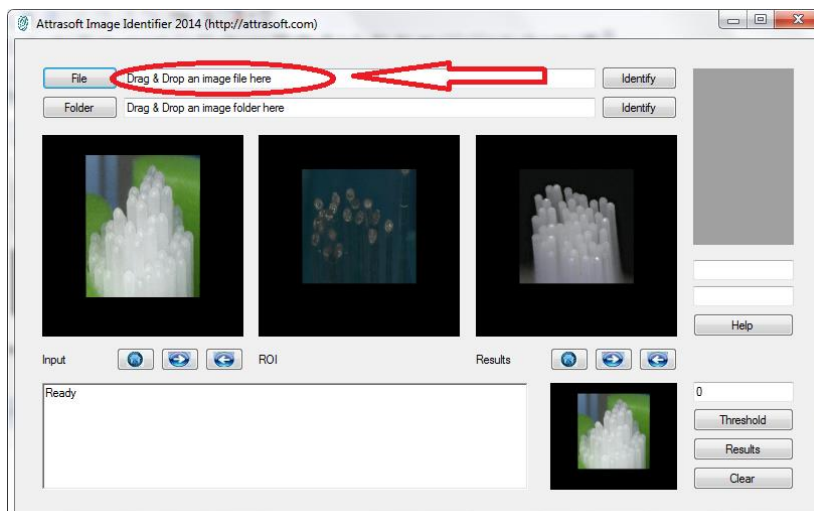


Figure 2. Drag and Drop an image to the first text box.

3. See the results in three boxes indicated by the three red arrows (Figure 3).

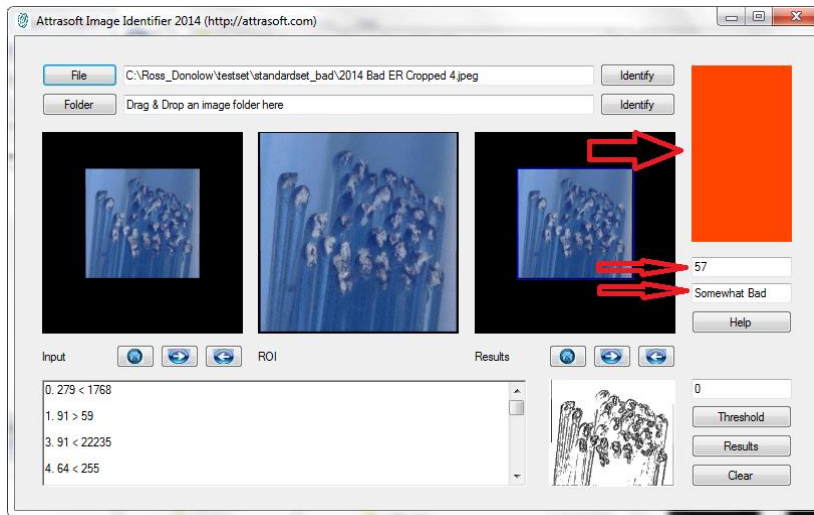


Figure 3. Results.

On the right hand side of the screen, there are three boxes:

- Color box (Dark Green, Light Green, Orange Red, Red, and Black).
- Score Box (0 – 100)
- Text Box (Excellent, Good, Somewhat Good, Somewhat Bad, Bad, Very Bad, Not Valid Image).

The relations are:

Dark Green – Excellent (95-100), Good (85 – 94)
 Light Green – Somewhat Good (75 – 84)
 Orange Red – Somewhat Bad (65 – 74)
 Red – Somewhat Bad (45 – 64), Bad (10 – 44), Very Bad (0 – 9)
 Black – Not Valid Image

II.2 Multiple Image Identification

1. Start the software (See Figure 1).
2. Put all images into a folder. The images can stay in subfolders. Drag and drop an image folder into the second text box (See Figure 4) and the image identification will start (Figure 4).

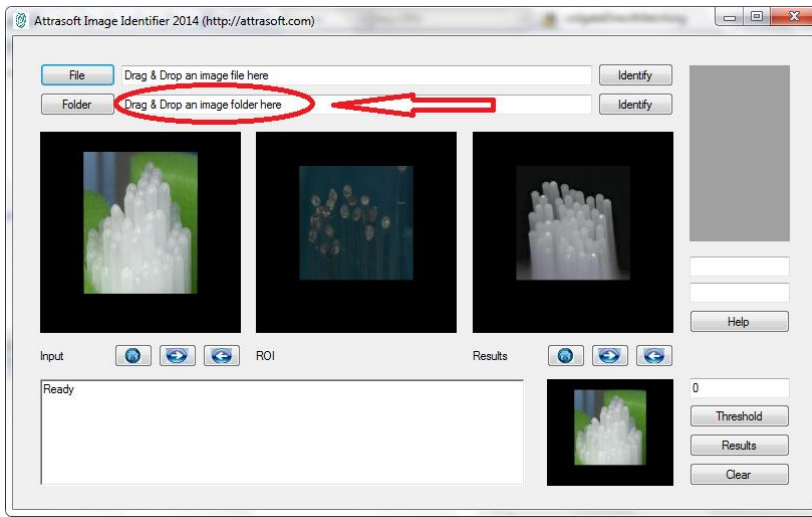


Figure 4. Search multiple images by drag and drop the image folder.

3. Scan results by clicking the First button, Next button, and Previous button (Figure 5). The results are also listed in a text file and can be obtained by clicking the Results button.

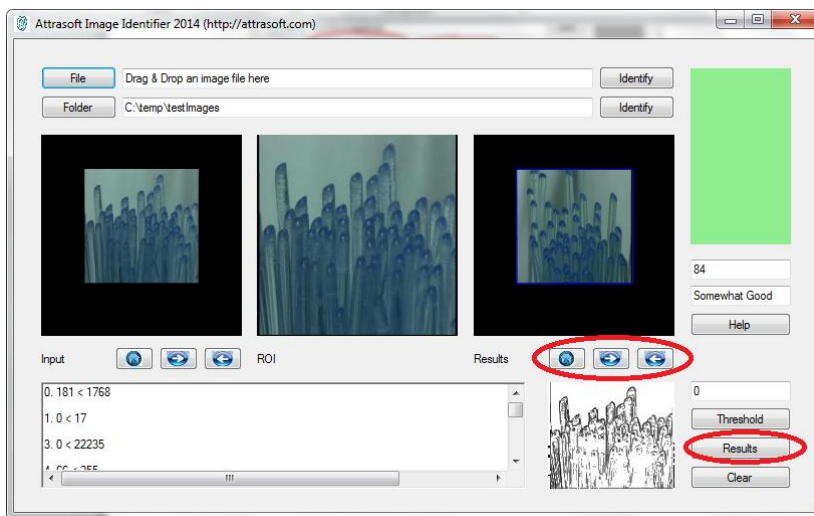


Figure 5. Folder search results.

You can use the Threshold text box and the Threshold button to set the Threshold value, which will only display the results above the Threshold value.

III. ImageTrainer

Attrasoft Trainer provides image segments that will be used by Attrasoft ImageIdentifier.

This training process can be lengthy and labor intensive.

If you do not want to go through such a lengthy training process, you should use ImageFinderSeg, where you can use Windows Paint to cut out an image segment and use it as search criteria.

The difference between ImageFinderSeg and ImageTrainer/Identifier are:

- ImageFinderSeg selects an image segment (*.jpg file) as the search criteria; you can obtain this image segment by using Window's Paint to cut a segment out from an image.
- ImageTrainer manually selects an image segment with a long training process;
- ImageTrainer /ImageIdentifier combination is far more accurate than the ImageFinderSeg.

III.1 Introduction

The training process is:

1. Select a training image set, which is further divided into:
 - Positive Training image set --- images you want to find.
 - Negative Training image set --- images you want to exclude.
2. Select sample pattern set , which is further divided into:
 - Positive sample pattern set --- patterns in images you want to find.
 - Negative sample pattern set --- patterns in images you want to exclude.
3. Training , which is further divided into:
 - Positive training --- positive patterns can identify **SOME** of the positive images, but will exclude **ALL** of the negative images. Each positive pattern will identify several positive images. As the positive patterns are added to the positive pattern set, it will gradually identify all positive images. None of the negative images will be identified.
 - Negative training --- a negative pattern will do the exact opposite. Each negative pattern will identify several negative images. As the negative patterns are added to the negative pattern

set, it will gradually identify all negative images. None of the positive images will be identified.

4. Manually drop the trained positive pattern set into the ImageIdentifier positive pattern folder and the trained negative pattern set into the ImageIdentifier negative pattern folders.

III.2 ImageTrainer User Interface

Figure 6 shows the ImageTrainer:

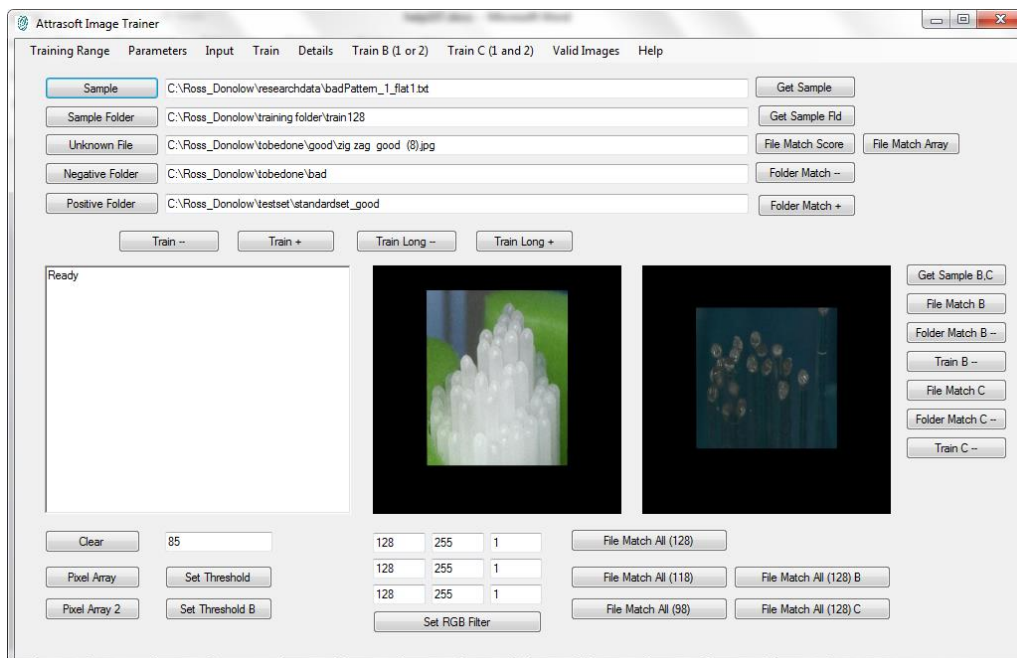


Figure 6. ImageTrainer.

Sample Button, Sample Text box, Get Sample

Use the Sample button to select a positive or negative pattern for training.

Use the Get Sample button to load the pattern into the software.

Sample Folder Button, Sample Folder Text box, Get Sample Fld

Use the Sample Folder button to select a positive or negative pattern folder for testing multiple trained sample patterns.

Use the Get Sample Folder button to load a folder of patterns.

Unknown File Button, Unknown File Text box

Use the Unknown File button to select an image for testing currently loaded pattern or patterns in a folder.

File Match Score

Use the File Match Score button to match the loaded patterns against the selected image for testing.

Negative Folder

Use the Negative Folder button to load negative sample image folder for training.

Folder Match –

Use the Folder Match – button to match the loaded patterns against the negative image folder for testing.

Positive Folder

Use the Positive Folder button to load positive sample image folder for training.

Folder Match +

Use the Folder Match + button to match the loaded patterns against the positive image folder for testing.

Train –

Use the Train – button to train the loaded pattern. This is a trial and error process. The training terminates when a training pattern can identify several negative images, but excludes ALL positive images.

Train +

Use the Train + button to train the loaded pattern. This is a trial and error process. The training terminates when a training pattern can identify several positive images, but excludes ALL negative images.

Train Long –

Use the Train Long – button to train the loaded pattern. This is a trial and error process. The training terminates when a training pattern can identify several negative images, but excludes ALL positive images.

Train Long +

Use the Train Long + button to train the loaded pattern. This is a trial and error process. The training terminates when a training pattern can identify several positive images, but excludes ALL negative images.

III.3 Customized Set Up and Support

Neither ImageIdentifier nor ImageTrainer exposes any internal parameters to users. These parameters will need to be set up by Attrasoft. This Set Up is required before delivering the software.

In order for Attrasoft to set the software up for you, you will need to give us 100 positive sample images and 100 negative sample images. You can continue the training process after the software is delivered to you.

Annual support is required. If you plan to redistribute, a redistribution license is required. If you plan to sell information based on the result of Attrasoft software, a commercial license is required. If a business uses Attrasoft software, business license is required.

IV Support

Vendor Support

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