

First IEEE International

Workitorial on Vision of the Unseen

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Main Menu

- + Call for papers
- + Program
- + People
- + Credits
- + Talks

Deadlines

Regular papers:

Submission: 4/10/08 Acceptance: 4/24/08 Camera Ready: 4/30/08

Competition papers:

Submission: 4/10/08 Acceptance: 4/24/08 Camera Ready: 4/30/08

Unseen Challenge

- + Description & tools
- + Data sets

IEEE WVU'08

Challenge short description and tools

Challengers: there are many possibilities to evaluate the data sets we provide. The way you use, is your choice!

PNG and JPEG training and testing data sets available!!!

Paper describing the data sets now available!!!

In this First IEEE Workitorial on Vision of the Unseen, we present a hidden message detection challenge. For this, we provide two data sets: one with **PNG images** and one with **JPEG images**.

We divide the PNG data set into 10,400 training and 5,000 testing images summing up to 15,400 images. For the JPEG data set, we have 37,205 images for training and \sim 5,000 for testing.

We divide each training set into 5 categories: one with clean images and four with stego images. Each stego category uses a different embedding tool. For each stego tool, we provide 4 different embedding sizes (tiny, small, medium, large) messages.

In both data sets, the clean category is divided in *modified* and *non-modified* images. The modifications consist of simple Image Magick manipulations. The purpose is to verify robustness of detectors under adverse conditions. For the training data set, there are modifications only in the clean images. For the testing data set, we will provide modifications also in stego images.

Tiny messages are those which use less than 5% of the channel capacity. Small messages are those which use more than 5% and less than 15% of the channel capacity. Medium messages are those which use more than 15% and less than 40% of the channel capacity. Finally, large messages are those which use more than 40% of the available channel capacity. For this challenge, we provide only the training sets.

Two weeks prior the deadline, we will provide the test sets. Concerning to the training images, the challengers can divide them as they want. However, the final results **must** be with respect to the testing that data we will provide. Finally, some of the images in both data sets has been tampered with common digital image processing transformations and tampering.

For the PNG data set, we use the Steganography tools:

- <u>Camaleão</u>
- Puff v1.01
- SecurEngine
- Stash-It

For the JPEG data set, we use the Steganography tools:

- <u>F5 r12</u>
- Outguess <u>0.13</u> and <u>0.2</u>
- <u>JSteg</u>
- JPHide