

If you have any questions about the code, please feel free to send emails to:

csstwu@szu.edu.cn

[csszhong@szu.edu.cn](mailto:csshzhong@szu.edu.cn)

The paper about this model and the whole code will be published online soon.

%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

% Purpose

%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

The purpose of this code is to train a novel CNN model with Shared Normalization Statistics for image steganalysis. The implementation is based on the MatConvNet platform.

%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

% Files

%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

run_experiment: this is the main function, which can be used to test a trained model for S-UNIWARD steganography at 0.4 bpp on the BOSSbase dataset. For this model, 5,000 covers and their stegos for model training, while the rest are for testing. The detection error rate is about 16.53%. After ensemble learning and data augmentation, the detection error rate for S-UNIWARD steganography can be decreased to 14.10%.

cnn_steganalysis_setup_data: the function to testing samples. In our implementation, '1' represents the training sample while '2' represents the testing sample.

test_model: the function to test a trained model.

getBatchFn, getDagNNBatch: the function to read images from specified paths

setup: the function to setup environment for the proposed model

%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

% Folders

%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

dependencies: this folder contains basic functions of constructing a CNN model with the MatConvNet platform. It contains two sub-folders, i.e. matconvnet and vlfeat.

model: the trained model is saved in this folder.

index: the folder contains index that determines training samples and testing samples.