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Standard Image Dataset

This dataset contains fifteen standard color and gray images with the size of 512×512 in bitmap format including Baboon, Barbara, Lena, Pepper, Girl, Lake, F16, House, Elaine, Goldhill, Boat, Camera, Toys, Zelda, and Crowd. The number of objects and various types of texture such as edge, smooth, and rough lead to challenge watermarking, steganography, denoising, etc. methods. The collected image database is freely available for downloading and utilization for scientific purposes. Download

**EYNet: Extended
YOLO for Airport
Detection in Remote
Sensing Images**

Nowadays, airport detection in remote sensing images has attracted considerable attention due to its strategic role in civilian and military scopes. In particular, uncrewed and operated aerial vehicles must immediately detect safe areas to land in emergencies. The previous schemes suffered from various aspects, including complicated backgrounds, scales, and shapes of the airport. Meanwhile, the rapid action and accuracy of the method are confronted with significant concerns. Hence, this study proposes an effective scheme by extending YOLOV3 and ShearLet transform. In this way, MobileNet and ResNet18, with fewer layers and parameters retrained on a similar dataset, are parallelly trained as base networks. According to airport geometrical characteristics, the ShearLet filters with different scales and directions are considered in the first convolution layers of

WSMN: An optimized multipurpose blind Watermarking in Shearlet domain using MLP and NSGA II

A novel approach for extending major airport detection YOLOV3 networks with novel structures which boost object expression ability and training efficiency. In addition, novel augmentation and negative mining strategies are presented to significantly increase the localization phase's performance. The experimental results on the DIOR dataset reveal that the framework reliably detects different types of airports in a varied area and acquires robust results in complex scenes compared to traditional YOLOV3 and state-of-the-art schemes. [Code (Matlab)](#)

Digital watermarking is a remarkable issue in the field of information security to avoid the misuse of images in multimedia networks. Although access to unauthorized persons can be prevented through cryptography, it cannot be simultaneously used for copyright protection or content authentication with the preservation of image integrity. Hence, this paper presents an optimized multipurpose blind watermarking in Shearlet domain with the help of smart algorithms including MLP and NSGA-II. In this method, four copies of the robust copyright logo are embedded in the approximate coefficients of Shearlet by using an effective quantization technique. Furthermore, an embedded random sequence as a semi-fragile authentication mark is effectively extracted from details by the neural network. Due to performing an effective optimization

reveal the superiority of the scheme with regard to the quality of watermarked images and robustness against hybrid attacks over other state-of-the-art schemes. The average PSNR and SSIM of the dual watermarked images are 38 dB and 0.95, respectively; Besides, it can effectively extract the copyright logo and locates forgery regions under severe attacks with satisfactory accuracy.

[Code (Matlab)](#)

This paper proposes a fragile and blind dual watermarking method for tamper detection and self-recovery. This method generates two image digests from the TPM image. Fragile blind dual watermarking for image tamper detection and recovery by providing a compact digest with optimized quality using IWT and GA provided. Then, the authentication bit is obtained by using the image digest. Totally, eight bits fragile blind embedded watermarking scheme for each block of image, is proposed the quality of the digest and recovery based on the technique is proposed. Additionally, it generates four compact digests with superior quality based on a window Map is utilized to improve the recovery technique by distinguishing the types of image blocks. previewing, copy-move, vector quantization attacks and chances for manipulation in LSBs, the forged blocks are created. A special block depends on the

technique is designed to get special results to improve the efficiency and to optimize the quality of the state of the art methods Image (Matlab) Furthermore, the Chebyshev System is used to determine the mapping block for embedding, encrypting, and shuffling the information. To improve the recovery rate, two techniques called Mirror-aside and Partner-block are proposed. Some experiments are con- ducted to prove the superiority of TRLG in terms of quality of the watermarked and recov- ered images, tamper localization, and security compared with the state-of-the-art methods. The results indicate that the average values of PSNR and SSIM of the watermarked image are about 46 dB and 1, respectively. Also, the average values of PSNR and SSIM for several recovered images that were destroyed about 90% reached to 24 dB and 0.86, respectively. Code (Matlab)

Download (Code)
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