

HAAR wavelet transformation

Prof. Dr. Dahlia Sam Prof. DrMGR educational and research Institute Chennai TN
Prof Brindha Tiugnanasambandam Prof. M.A.M school of Engineering Siruganur
Tiruchy

Introduction:

In this twentieth century, it was a kind of loss of privacy in the age of telegraphy. There was nuclear security and cold war. There are a lot of digital secrecy where a lot of tools of encryption that guard our banking, our health care and the govt rely on mathematical puzzles which is broken with enough time and with more Computing Systems. Years, we occupied processing time was long and that is huge so went into twentieth century. Digital printing allowed for more intricate patterns and designs.

However sharing or transferring of images is done within a splash of second ie in Digital Imaging. However, as technology evolves, ensuring, the authenticity of valuable materials compound mapping watermarking, embedding, extraction, mapping and randomization approach. Parameter randomization approach were implemented for intricate patterns and designs. Currency notes became more challenging, leading to the development of methods like digital watermarking for authentication and protection. Developing an algorithm that is embedded with water mark on gray scale or colour image where the gray scale can pave one matrix of pixels one for red domain one for green domain then the blue domain. An idea that forms the quantum bit quantum key distribution (QKD) a protocol that can guarantee secrecy against an adversary with unbounded computational power.

Earlier scientists encoded keys in polarized photons in experiments. A security of the IOT poses important challenges to wireless networks mainly in the detection of digital future and the race for an UnHackable digital future mainly in the detection of neutralization of malevolent actions. Rapid and accurate identification of unauthorized or abnormal network traffic is crucial for uncovering potential intrusions or attacks. Back to the 1980's scientists described how to encode keys in polarized photons. Building resilient networks are a part of security in uncovering potential intrusions of security. Hybrid intelligent networks intrusion finding for network for certain wifi attacks for detection of WSN with deep belief networks. The highly regarded approach were useful for categorization. It provides less false alarm rate and more accurate in wireless internet of things networks also detect attacks on them has high micro average and low detection rate.

Presenting an effective feature selection utilising machine learning strategies for hybrid wireless IOT network intrusion finding scheme. Over decades engineers have build a lot of cracks. They introduced decoy states to detect intrusions disguised as losses. Creation of measurement devices independent schemes where even trusted. They designed continuous variable versions of prototype with an algorithm that embed watermark on grayscale or colour image without compromising secrecy. The technology shed refinement and moved closer to real world utility. The key contributions of this work is as follows: A novel hardware based watermarking system that combines mapping technique. Introduction of a dual layer security

mechanism using improving security and robustness.

Proposed Methodology

The Hardware implementation of compound mapped watermarking using HAAR wavelet transformation is proposed by gray scale and color image.

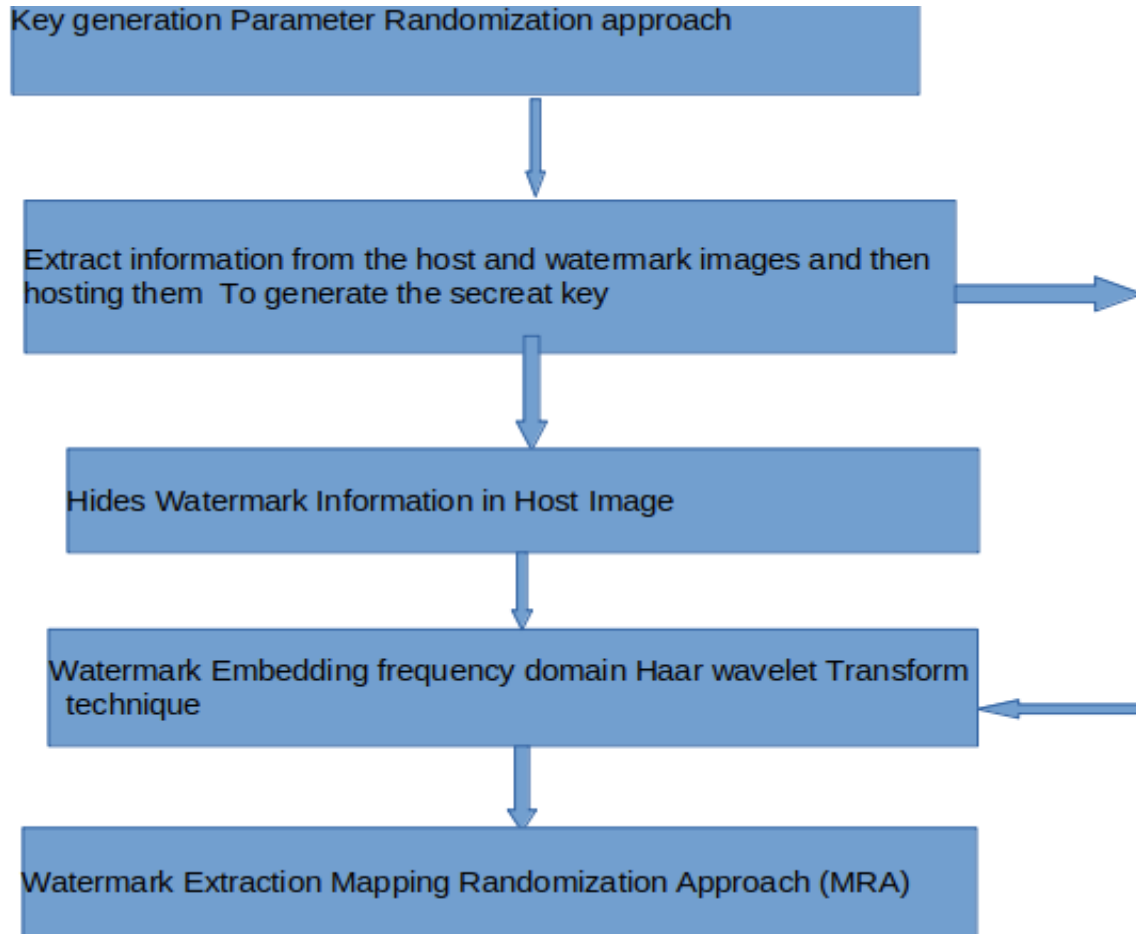


Figure 1 The Parameter Randomization Approach

The Parameter Randomization approach (PRA) shown in the figure 1 is an optimal technique for key generation.

Watermark Embedding

The frequency domain HAAR wavelet Transformation is used to hide watermark details from host picture. It enables effective Embedding and extraction of watermark information without significant loss of image quality.

The subband of host imagery of Haarlet wave transform is $D = H(W)EH(W)^T$

E indicates image matrix

H(W) - denotes HaaR transformation resulting in haar transformation.

Watermark Extraction

Mapping of randomization approach (MRA) is employed to retrieve the embedded information from digital data. MRA is a signal processing device. A significant feature of MRA is it assists in floating point numbers or integers.

The watermark image is used as input in the first phase.

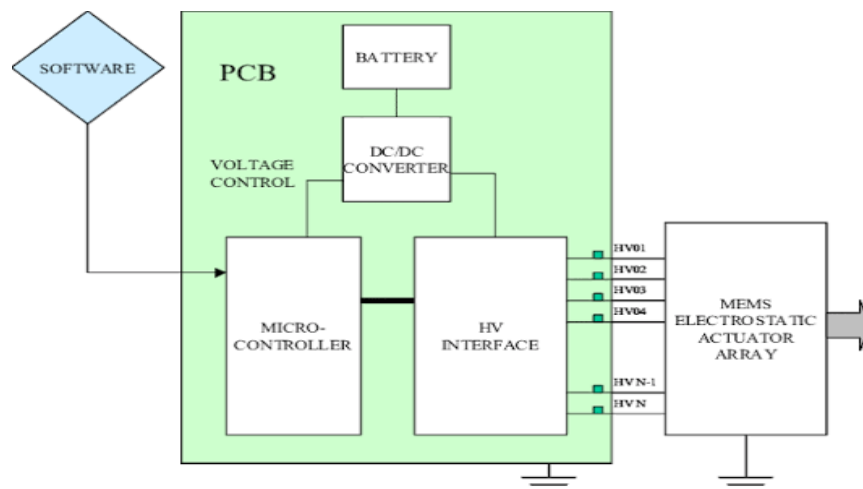


Figure 2 : The Architecture on PCB board

The total pixels in the image is expressed as D . The sum of pixels is referred as $V = \text{SOP}(D) + F$. $\text{SOP}(D)$ indicates - Sum of pixels of D and F with reference to secret key.

The total number of pixels is calculated using ceiling function as expressed in equation $V = D/V$. To embed grayscale watermark on a color image first 0-255 range image is encoded in the RGB from into chromatic components using frequency.

Where V indicates no of pixels. V denotes the number of characters

D indicates pixel size

The dimension is then calculated as CXC

$CXC \geq e$ or c^2 or $c^2 \geq e$

The average used to reduce the negative value impact and activate

Figure 2 : The Architecture on PCB board consists battery, DC/DC converter, Microcontroller , HV interface , HV01 to HVN [MEMS electrostatic actuator array] and software.

Results and discussion

The experimental outcome of compound mapped water marking using HAAR wavelet transformation of grayscale including colour image is discussed. In this paper the network implementation of compound mapped water marking using HAAR wavelet transformation was successfully implemented for a grayscale and color image. One limitation is the frequency on the quality images which affects the robustness of water marking process.

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DR C.P. Indhumathi Assistant prof Bharathidasan Institute of Technology Campus ,Anna University, Tiruchirappalli ,Dr Dahlia Sam Prof Dr
MGR Educational and Research Institute University , Maduravoyal Chennnai TN,
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621105

11 Finite Fields in Numeric and Arithmetic in Cryptography DR C.P. Indhumathi Assistant prof
Bharathidasan Institute of Technology Campus ,Anna University, Tiruchirappalli , Prof

Pannerselvam , Assistant prof K.Sathish Kumar, Dr Dahlia Sam Prof Dr

MGR Educational and Research Institute University , Maduravoyal Chennnai TN

Prof Dr.

Brindha Tirugnanasambandam Prof M.A.M School of Engineering Siruganur Tiruchirapalli –

621105