Randomized least significant bit embedding algorithm

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1 Introducing an Original Algorithm

Algorithm 1 Randomized LSB algorithm

procedure LSB_R(SEED,KEY,IMG[],SIG[]) ▷ SEED KEY IMAGE SIGNATURE
    $len \leftarrow length(SIG)$
    $R_1, R_2, R_3, ...R_{len} \leftarrow PRNG(seed)$
    $Shuffle(R, key)$
    $Sum \leftarrow 0$
    $N \leftarrow length(image)$
    $bit\_pos \leftarrow bit\ in\ position\ R_i$
    $LSB\_Bit \leftarrow bit\ in\ position\ j$
    $Binary\_sig \leftarrow signature\ in\ bits$
    $0 \leftarrow i$
    $7 \leftarrow j$
    $0 \leftarrow k$
    for $k \leftarrow 0$ TO $len - 1$ **do**
        $IMG[K]_{LSB\_Bit} \leftarrow IMG[K]_{bit-pos} \oplus Binary\_sig[K]_{LSB\_Bit}$
        $i \leftarrow i + 1$
    end for
    return IMG ▷ IMAGE WTH HIDDEN SIGNATURE
end procedure