

**CHENNAI – PONDICHERRY**

**AN EFFICIENT MSB PREDICTION-BASED METHOD FOR HIGH-CAPACITY REVERSIBLE DATA HIDING IN ENCRYPTED IMAGES**

**Abstract:**

Reversible data hiding in encrypted images (RDHEI) is an effective technique to embed data in the encrypted domain. An original image is encrypted with a secret key and during or after its transmission, it is possible to embed additional information in the encrypted image, without knowing the encryption key or the original content of the image. During the decoding process, the secret message can be extracted and the original image can be reconstructed. In the last few years, RDHEI has started to draw research interest. Indeed, with the development of cloud computing, data privacy has become a real issue. However, none of the existing methods allows us to hide a large amount of information in a reversible manner. In this paper, we propose a new reversible method based on MSB (most significant bit) prediction with a very high capacity. We present two approaches, these are: high capacity reversible data hiding approach with correction of prediction errors (CPE- HCRDH) and high capacity reversible data hiding approach with embedded prediction errors (EPE-HCRDH). With this method, regardless of the approach used, our results are better than those obtained with current state of the art methods, both in terms of reconstructed image quality and embedding capacity.