Abstract

In this paper, a new reversible image hiding scheme based on histogram shifting for grayscale images is proposed. As is known, the payload storage of histogram-based reversible data hiding is impacted by the overhead information of the pixel positions that have to be embedded in a cover image. To solve this problem, the cover image is divided into two parts, namely the Most Significant Part (MSP) and the Least Significant Part (LSP), secret data is hidden by shifting the histogram of the most significant part. To increase the payload of embedded data in a cover image, the proposed algorithm reduces the number of bits that represent the secret data without any corruption of that secret data. In addition, overflow and underflow problems are prevented by categorization of the histogram into three categories. According to the experimental results, the cover image is recovered correctly. A higher hiding capacity can be obtained and a good quality marked image is preserved when the proposed scheme is applied to hide the secret data by shifting the histogram of the most significant part instead of hiding by shifting the histogram of the whole cover image.

References
A Novel Reversible Data Hiding Technique with High Capacity and Less Overhead Information


**Index Terms**

Computer Science  Security

**Keywords**

Reversible Data Hiding  Histogram Modification  Embedding Capacity