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Abstract
In recent years, with the rapid development of computer and Internet, anyone can obtain much information from Internet such as digital images. Furthermore, due to the popularization of image processing software, anyone can copy and modify digital images easily. Therefore, the problems of image security become important, such as how to protect image's legal owner, or how to confirm image content integrity. Many image authentication methods were proposed to solve the above problems; however, most methods provide either copyright protection or content integrity authentication, only few methods provide both them.
This thesis propose a multipurpose digital watermarking method based on vector quantization, and the copyright and authentication information are used to achieve both copyright and authentication protection. The Authentication information is calculated from vector quantization index tables of original image and lower bound images. The proposed method doesn't need to send original codebook to receiver, and receiver can reconstruct a codebook according the received index table. The experimental results show that the proposed method can achieve the ownership and integrity verifications. When images suffer malicious manipulations, our method can locate the tampered regions.
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