## Abstract

In the digital age, the protection of personal data, particularly images, has become increasingly crucial due to the rise in cyber threats and privacy concerns. Personal images often contain sensitive information, and their unauthorized access or theft can result in significant privacy violations. This paper proposes a robust image encryption technique aimed at ensuring the confidentiality of personal images during transmission across insecure communication channels.The encryption algorithm integrates advanced cryptographic methods with image processing techniques to provide a dual-layer security approach. Firstly, the image is converted into a format suitable for encryption using techniques like discrete cosine transform (DCT) or pixel shuffling. Then, a strong encryption algorithm, such as Advanced Encryption Standard (AES) or RSA, is applied to secure the transformed image data. To enhance security further, steganography techniques may be employed to embed the encrypted image within a cover medium, rendering it less conspicuous during transmission.The proposed method ensures the protection of personal images from unauthorized access and guarantees the integrity of the transmitted data. By combining traditional encryption techniques with modern image processing and steganography, the approach aims to provide a high level of security while maintaining the quality of the original image.The performance of the proposed encryption scheme is evaluated in terms of computational efficiency, encryption time, robustness against attacks, and the quality of the decrypted image. Experimental results show that the encryption method achieves a high degree of security without significantly compromising the visual quality of the image, making it an ideal solution for the secure transmission of personal images over the internet or other communication channels.