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Secure Data Transfer using Image Steganography and Cryptography with Rail Fence

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Abstract: *In today's world, secure data transfer is essential. This research paper introduces a simple and effective solution by combining Image Steganography and Rail Fence Cryptography to protect information. First, the hidden message is secured with Rail Fence Cipher encryption. Then messages are hidden inside images using the Least Significant Bit (LSB) technique, which makes changes invisible to the human eye. This double layer of protection keeps the information safe and hidden from attackers. The system, "Secure Data Transfer Using Image Steganography and Cryptography with Rail Fence" utilizes a hybrid approach combining cryptography with rail fence and image steganography with LSB method to safeguard data transfer. This hybrid method aims to enhance security and privacy in data transmission, particularly when sensitive or confidential information needs to be exchanged.*

Keywords: Secure Data Transfer, Image Steganography, Rail Fence Cryptography, Least Significant Bit (LSB).