

Enhanced Data Security Using Video Steganography for Concealed Communication

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Abstract: *This project introduces a highly secure method for protecting classified military information by combining Elliptic Curve Cryptography (ECC) and Least Significant Bit (LSB) video steganography. ECC ensures strong encryption with minimal computational overhead, while LSB embedding conceals encrypted data within video frames, making it imperceptible. The dual-layered security mechanism enhances data protection, making the system resilient to cryptographic and steganalytic attacks. The approach is well-suited for secure communication in defence, intelligence, and government sectors, maintaining video integrity while safeguarding sensitive information from cyber threats.*

Keywords: ECC, LSB steganography, encryption, cryptographic security, military data protection, cyber threats, secure communication, steganalysis resistance, video steganography

