

Steganographic Metadata Embedding to Trace the Footprint of WhatsApp Images

Vaibhav Dobe¹, Dhudhbahte Priyanka², Riya Dhomne³, Komal Dumbare⁴, Dr. Suresh Mali⁵
B.E. Students, Dr. D. Y. Patil College of Engineering and Innovation, Pune, India^{1,2,3,4}
Principal, Dr. D. Y. Patil College of Engineering and Innovation, Pune, India⁵

Abstract: *This research paper proposes a method to trace the footprint of senders while forwarding of images on WhatsApp by embedding metadata (such as mobile numbers) using Least Significant Bit (LSB) steganography. The technique ensures that the hidden information is imperceptible to users and remains intact even after WhatsApp's image compression. The method allows for tracking the digital footprint of images, providing traceability to combat misinformation, piracy, and privacy concerns. The system is robust, enabling metadata recovery after multiple shares, with applications in digital forensics, media integrity, and monitoring the spread of viral content*

Keywords: LSB, Steganography, Metadata, Imperceptibility, Data-Hiding, Cryptography