## ABSTRACT

Blockchain Based Secure Photo Sharing Framework (BBSPSF) introduces a pioneering advancement in the realm of blockchain technology, particularly focusing on the secure and privacy-centric sharing of photos across various social networks. Utilizing the immutable and decentralized characteristics of blockchain, this framework significantly enhances how digital images are managed, accessed, and distributed, ensuring that users maintain full control over their content in a way that traditional centralized platforms cannot offer.

The primary challenge addressed by PhotoChain is the vulnerability associated with the privacy of photos shared online. Users of social networks currently face significant risks in controlling access to their photos and safeguarding their intellectual property rights. Issues such as unauthorized dissemination and illegal reprinting of photos highlight the inadequacies of existing platforms in protecting user data and enforcing ownership rights effectively.

To counter these challenges, PhotoChain implements a series of sophisticated algorithms and mechanisms. It employs the Gaussian Blur algorithm for face masking, enhancing user privacy by anonymizing identifiable features in images. The PreHash algorithm is crucial for verifying the integrity of photos, ensuring they have not been tampered with. Additionally, SHA cryptographic hashing is utilized to secure and authenticate photo transactions on the blockchain. Together, these technologies automate dissemination control through smart contracts, provide robust photo integrity checks, and maintain privacy and ownership rights, establishing PhotoChain as a comprehensive solution for secure photo sharing in the digital age.