

# Forgery Detection in Images Using Artificial Intelligence and Image Processing

Chandana N M<sup>1</sup>, Anagha Udupa Y N<sup>2</sup>, Srideeksha G<sup>3</sup>, Harshitha B<sup>4</sup>, Mounish K Arkachari<sup>5</sup>

Department of Information Science and Engineering<sup>1-5</sup>

Alva's Institute of Engineering and Technology, Mijar, Karnataka, India

**Abstract:** *In a time when digital content can be easily altered and shared, digital picture fraud has become a serious issue. As sophisticated manipulation tools become more widely available, verifying the validity of photos is crucial in domains including cybersecurity, forensics, and journalism. With an emphasis on AI-driven strategies and conventional image processing techniques, this paper examines modern approaches to image forgery detection. It investigates techniques including convolutional neural networks (CNNs), generative adversarial networks (GANs), and hybrid models and classifies forging kinds such copy-move, splicing, and deepfake. The study also identifies issues such as small datasets and subtle changes that make identification more difficult. By offering a thorough examination of current methods, their uses, and their drawbacks, this review seeks to direct future investigations towards more reliable, understandable, and scalable solutions for forgery detection*

**Keywords:** Digital Image Forgery, Forgery Detection, Deepfake Detection, AI-Based Techniques, Convolutional Neural Networks (CNNs), Hybrid Models