**Forensic Scanner Identification Using Machine Learning**

1Mr. Prudhviraj1, 2B. Sriya2, 3G. Anusha3, 4B. Sai Koushik4, 5A. Sharath Chandra.

1Associate Professor, Department of Computer Science and Engineering (AI &ML), SIET,

Hyderabad

2Department of Computer Science and Engineering (AI &ML), SIET, Hyderabad

3Department of Computer Science and Engineering (AI &ML), SIET, Hyderabad

4Department of Computer Science and Engineering (AI &ML), SIET, Hyderabad

5Department of Computer Science and Engineering (AI &ML), SIET, Hyderabad

**ABSTRACT:**

Due to the increasing availability and functionality of image editing tools, many forensic techniques such as digital image authentication, source identification and tamper detection are important for forensic image analysis. In this paper, we describe a machine learning based system to address the forensic analysis of scanner devices. The proposed system uses deep-learning to automatically learn the intrinsic features from various scanned images. Our experimental results show that high accuracy can be achieved for source scanner identification. The proposed system can also generate a reliability map that indicates the manipulated regions in an scanned image. The system's ability to adapt to various scanner models and image conditions. Evaluation of the system's performance across a diverse dataset of scanned images. Potential applications in forensic investigations, legal proceedings, and image authentication services.

**Keywords:** Forensic image analysis , Image editing tools ,Digital image authentication ,Source identification, Tamper detection, Machine learning, Deep learning, Scanner devices