Image Forgery Detection System

Ms. Krutika Suryawanshi[1], Mr. Borade Sarthak Sandeep[2], Mr. Jadhav Harshal Shivaji[3]
Ms. Kakulte Khushi Vijay[4], Ms. Sabale Sakshi Chintaman[5]
Lecturer, Department of Artificial Intelligence & Machine Learning[1]
Student, Department of Artificial Intelligence & Machine Learning[2,3,4,5]
Mahavir Polytechnic, Nashik, Maharashtra, India

Abstract: *Image forgery has become a serious issue with the rapid growth of digital media and image editing tools. Manipulated images are often used in fake news, digital fraud, and misinformation, making image authenticity verification extremely important. This paper presents an Image Forgery Detection System based on Artificial Intelligence and Deep Learning techniques that automatically identifies whether a digital image is real or tampered.*

The proposed system uses Error Level Analysis (ELA) to detect compression inconsistencies in images caused by editing or manipulation. A Convolutional Neural Network (CNN) model analyzes these ELA images and classifies them into real or tampered categories. The system provides fast, accurate results along with a confidence score through a user- friendly web interface.

Experimental results show that the system achieves high accuracy in detecting forged images and reduces the need for manual inspection. Overall, the proposed solution is efficient, scalable, and useful for applications such as digital forensics, media verification, and fraud detection.

Keywords: Image Forgery Detection, Deep Learning, Error Level Analysis, Computer Vision, Digital Forensics, CNN