Counterfeit Indian Currency Notes Detection by using SSIM and ORB Algorithms

Omkar Vidhate, Mrs. Snehal Khajurgi, Suraj Wadkar, Varad Chavan, Alisha Pathan
Department of AI & DS
Marathwada Mitra Mandal's College of Engineering, Pune, India
omkarav5527@gmail.com, snehalkhajurgi@mmcoe.edu.in, surajwadkar6013@gmail.com
varadchavan3002@gmail.com, alishapathan1612@gmail.com

Abstract: *Counterfeit notes are serious risk to both individuals and the country economy. However false currency discovery systems exist, they are mostly limited to banks and big corporations, leaving little businesses and the worldwide public at risk. This system utilizes machine learning techniques to examine and classify currency notes by extracting key features from high-resolution images. By training on a dataset surrounding both real and forge notes, it learns to differentiate real currency from fake ones based on attributes such as color, texture, watermark, security threads, and other security markers. Implementing such a system enhances the accuracy and efficiency of counterfeit detection while minimizing human error. This makes it a crucial tool for financial institutions, businesses, and law enforcement agencies in safeguarding the integrity of the financial system.*

Keywords: Counterfeit currency, fake note detection, image processing, feature extraction, ORB detector, SSIM algorithm, SSIM score, Brute-force matcher