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"LIVELINESS AUTHENTICATION ON PHOTO OF PHOTO VS LIVE PHOTO USING IMAGE PROCESSING"

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Abstract: In today's world, signatures are crucial for authentication and authorization in various fields. However, people may forget their signature or make mistakes while processing it. Therefore, there is a growing need for automated solutions for live person verification. Unlike traditional identification methods such as passwords, PINs, or key cards, which can be forgotten or stolen, facial features are unique to individuals and cannot be easily replicated. Live camera 3D liveliness detection technology can enhance the pictorial information of a facial image to enable human interpretation and autonomous machine perception. Digital image verification involves converting an image into an array of small integers known as pixels and processing it using computer hardware. Edge detection is an essential task in image processing because it characterizes boundaries. This project aims to simplify and improve 3D liveliness detection using advanced technologies such as artificial intelligence and machine learning to prevent illegal activities.

Key Words: machines learning, image processing

1. INTRODUCTION

With the rapid growth of digital multimedia and its susceptibility to copying, manipulation, and transformation, there is a need for new protection schemes. Image authentication is the process of assessing the integrity of image content and detecting any malicious modifications in an automatic manner. However, accessing the original image may not always be possible, making it necessary to associate additional information with the image to identify it uniquely. Facial recognition is a common form of biometrics used for fraud prevention in various industries. It uses algorithms to distinguish an individual's unique facial features from those of similar faces in a line-up. Financial institutions are increasingly using facial biometrics to balance enhanced fraud prevention with a high-quality user experience. The main challenge in converting 2D images to 3D is accurately estimating depth from a single image. Multiview stereo methods attempt to improve depth estimation by using multiple images of the same scene, automatically selecting suitable ones for depth retrieval. These methods are similar to the proposed approach, with the key difference being the use of images from a large repository instead of those showing the same scene as the query image.