

Check the difference of the logo using image matching technique

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Abstract: This study proposes a method for detecting logo differences using image matching techniques. Given the critical role of logos in brand identity and the prevalence of unauthorized modifications, an automated system for verifying logo integrity is essential. The approach extracts key features from a reference logo and a test logo using robust feature detection algorithms, such as SIFT or ORB. These features are then matched to establish correspondences between the two images. By analyzing the geometric consistency and the number of successful matches, the system quantifies the degree of similarity or dissimilarity. Significant deviations in feature alignment or a low match ratio indicate a modified or counterfeit logo. Experimental results demonstrate that the method is effective in distinguishing between identical, slightly altered, and completely different logos, even under variations in scale, rotation, and partial occlusion. This technique offers a reliable tool for automated brand protection and quality control.

Keywords: Logo matching, image comparison, logo difference detection, image matching techniques