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## Abstract

The influence of eyeglasses has significantly impacted the performance of ocular biometrics in recent times, and the problem of detecting eyeglasses is crucial for ensuring stable and reliable ocular biometric system performance. However, despite the importance of this issue, the detection of eyeglasses has not received significant attention in applications requiring visible ocular samples during enrolment and probed with spectral bands to enhance accuracy. In this paper, we present extensive experiments on eight different algorithms to benchmark the influence of eyeglasses on cross-spectral periocular verifications. We also present the benchmark of eight different algorithms that include both hand-crafted and deep features-based approaches for reliable detection of eyeglasses in the cross-spectral scenario. Extensive experiments were conducted on the newly collected cross-spectral dataset (VISPO dataset) with 18720 ocular instances. We first present an experiment demonstrating the performance degradation of ocular biometrics due to the influence of eyeglasses, followed by the average classification accuracy to detect glass using eight state-of-the-art classification approaches with a 10-fold cross-validation method. The highest average glass detection accuracy of 88.48 ± 3.8% demonstrates the effectiveness of the proposed framework.