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Image quality assessment for iris biometrics for minors

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Abstract

Image quality assessment plays an important role in enhancing the performance of pattern recognition systems, including biometric systems. Although, quality assessment methods have been utilized for iris recognition on adults they have not been investigated on iris recognition for children. Iris recognition on children is difficult because of their uncooperative nature and may result in lower quality iris samples. In this study, we applied four existing quality assessment methods, light variation, pupil dilation, off-angle, and pixel count to data we collected from children and the CASIA database with iris images from adults. The results indicate that once the image without any visible iris area are removed, using an automated process, then the remaining images for children produces similar quality assessment distributions as those of iris images from adults. This study is the first step in creating an iris recognition system for children.