



**RESEARCH ARTICLE**

# **Elliptical Iris Detection using Morphological Operations**

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***Abstract— This paper presents a method to detect an iris to operate in 3D coordinate system. As per projective geometry, circle in 3D is projected as an ellipse in 2D. Hence, iris is detected as an ellipse instead of a circle. Morphological operations of light computations are used to detect an iris, which reduces time to detect an iris. Eye images with high resolution provide more number of pixels giving accuracy. Such detected ellipse can be further used to map to a circle in 3D using calibrated camera.***

***Key Terms: - Morphological operations; Ellipse fitting; Edge following; Region filling; Edge detection***

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