

## عنوان مقاله:

A Novel Technique for Pupil Center Localization Based On Projective Geometry

## محل انتشار:

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## خلاصه مقاله:

Pupil center localization is fundamental to calculate eye orientation and gaze direction in video-based systems. In previous techniques, either it is assumed that the pupil center is same as iris center or active illumination is utilized. In this paper, we have developed a new technique which utilizes eye geometry to localize pupil center without requiring special lighting. The main idea in the proposed technique is to restrict search space of the pupil center to the minor diameter of the iris ellipse proved from the geometrical model of eye proposed in this paper. In the proposed technique, we fit an ellipse to iris boundary, which is very simpler than ellipse fitting for pupil boundary in images on the common illumination, and then estimate pupil center by searching minor diameter of the iris ellipse. The performance of the method has been evaluated on both synthetic and real images.

## کلمات کلیدی:

Pupil center localization; Projective geometry; Search space; Curve fitting

## لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/159047>

