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Abstract
People are interested in extracting three-dimensional space information from the picture and image. In an image, although no method can get the depth information from the unknown-size target, people often estimate the relative position between the cameraman and object from the appearance of well-known objects in the image. Base on this motivation, this thesis tries to measure the pose of known-pattern objects from their image.
In the artificial environment, various kinds of geometry pattern are adopted in a large amount, among them the doors, windows, and wall bricks are mostly rectangle, people often make use of their deformation in the picture to estimate the relative position between the rectangle objects and the cameraman. This thesis proposes a method to measure the pose of rectangular objects under the assumption that the size of rectangular objects is unknown. Because the opposite side in a rectangle is parallel and equal length, after finding the corresponding image of the target rectangle object, simple vector algebra can be used to compute the pose of rectangle object relative to the camera. Error analysis and experimental results show this method that can measure the pose of rectangle objects is concrete and feasible.
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