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Abstract

In this paper, we compared the performance of various combinations of edge operators and linear subspace methods to determine the best combination for pose classification. To evaluate the performance, we have carried out experiments on CMU-PIE database which contains images with wide variation in illumination and pose. We found that the performance of pose classification depends on the choice of edge operator and linear subspace method. The best classification accuracy is obtained with Prewitt edge operator and Eigenfeature regularization method. In order to handle illumination variation, we used adaptive histogram equalization as a preprocessing step resulting into significant improvement in performance except for Roberts operator.

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Index Terms

Computer Science

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Keywords

Pose Classification Edge detection Linear Subspace Methods