Abstract

Gradient of images is an effective discriminative feature, widely used in pattern recognition applications. In this work the twelve directional codes depending on the gradient direction is coupled with a statistical classifier for designing an offline recognition system for handwritten isolated Malayalam characters. Preprocessed character images are decomposed into sub-images using the Fixed Meshing strategy and the twelve directional codes are extracted to form the feature vector. Classification has been carried out by implementing the Modified Quadratic Discriminant function (MQDF), a successful statistical approach for
Handwritten Character Recognition. We obtained 95.42% accuracy, and the experimental result shows that the approach provides better results. Compared to QDF, MQDF improves the classification performance by more than 10%, reduces the computation cost and also provides dimensionality reduction to a larger extent. A database of 19,800 handwritten Malayalam character samples was used for the experiment.

Reference


- Weipeng Zhang, Yuan Yan Tang, Yun Xue, “Handwritten Character Recognition Using Combined Gradient and Wavelet Feature”,1-4244-0605-6/06/$20.00 ©2006 IEEE.

Index Terms

Computer Science
Pattern Recognition

Key words

Fixed Meshing
Gradient Features
Handwritten Character Recognition

Quadratic Classifiers