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  Nonparametric Colour Indexing: An Alternative to Histograms

  A method for colour indexing is proposed that is based upon Nonparametric statistical techniques. Nonparametrics compare the ordinal rankings of sample populations, and maintain their significance when the underlying populations are not normally distributed. Lipshutz embedding is first used to generate sets of scalars that combine all colour channel information. The Moses test of dispersion followed by the Wilcoxon test of central tendency is then applied. The method has been implemented and compared to 8 different histogram similarity metrics under 4 different colour space mappings. The recognition accuracy of the Nonparametric method compares favourably with the histogram methods, and in some tests outperforms the best histogram methods on standard databases.

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