NAME

pgmtexture - calculate textural features on a portable graymap

SYNOPSIS

pgmtexture [**-d** *d*] [*pgmfile*]

DESCRIPTION

Reads a portable graymap as input. Calculates textural features based on spatial dependence matrices at 0, 45, 90, and 135 degrees for a distance *d* (default = 1). Textural features include:

(1) Angular Second Moment,
(2) Contrast,
(3) Correlation,
(4) Variance,
(5) Inverse Difference Moment,
(6) Sum Average,
(7) Sum Variance,
(8) Sum Entropy,
(9) Entropy,
(10) Difference Variance,
(11) Difference Entropy,
(12, 13) Information Measures of Correlation, and
(14) Maximal Correlation Coefficient.

Algorithm taken from:
Haralick, R.M., K. Shanmugam, and I. Dinstein. 1973. Textural features for image classification. *IEEE Transactions on Systems, Man, and Cybertinetics*, SMC-3(6):610-621.

BUGS

The program can run incredibly slow for large images (larger than 64 x 64) and command line options are limited. The method for finding (14) the maximal correlation coefficient, which requires finding the second largest eigenvalue of a matrix Q, does not always converge.

REFERENCES

IEEE Transactions on Systems, Man, and Cybertinetics, SMC-3(6):610-621.

SEE ALSO

pgm(5), pnmcut(1)

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