

**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 Cybernetics*, 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 Cybernetics*, SMC-3(6):610-621.

**SEE ALSO**

pgm(5), pnmcut(1)

**AUTHOR**

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