Illumination - Invarient Pattern Recognition With Local Rank Correlations

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Abstract – Non Linear filters based on nonparametric rank correlations between local ranks of an input scenes computed in a moving window and ranks of a target for illumination invariant pattern recognition are proposed. Several properties of the correlations are investigated . Their performance of detection of noisy objects is compared to that of the conventional linear correlation in terms of noise robustness and discrimination capability. Computer simulation results for a test noisy image are provided and discussed .