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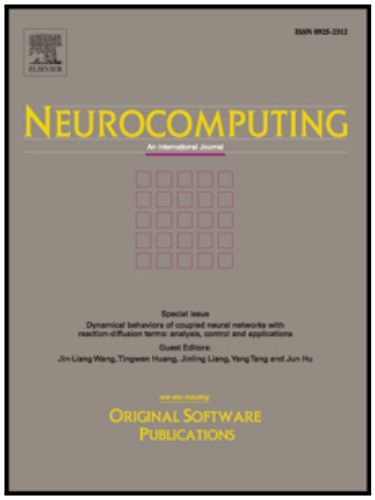

Nuclear norm-based matrix regression preserving embedding for face recognition

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Highlights

- We propose a novel nuclear norm-based matrix regression preserving embedding (NN-MRPE) method for dimensionality reduction (DR).
- NN-MRPE constructs an intrinsic graph by using the nuclear norm to evaluate the residual errors to resist the corruptions.
- A matrix based embedding cost function is constructed to seek two robust transformation matrices to map the high-dimensional data into a low-dimensional space with the intrinsic geometrical structure of the original data being preserved.
- We summarize a general DR framework called linear regression preserving embedding, which is a regularized extension of LLE.
- The experimental results show that the proposed method is more efficient than the other comparison methods, e.g., CRP, SPP, LRPE, 2DPCA, 2DLPP, and 2DSPP.