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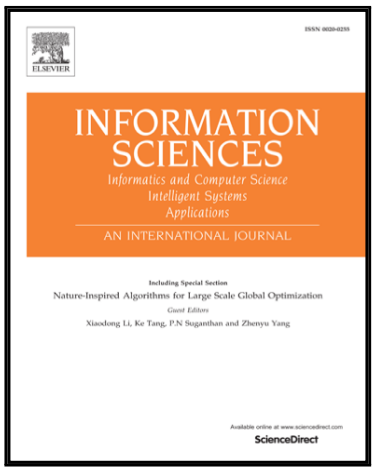

Matrix factorization for low-rank tensor completion using framelet prior

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Matrix factorization for low-rank tensor completion using framelet prior

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Abstract

In this paper, we propose a novel tensor completion model using framelet regularization and low-rank matrix factorization. An effective block successive upper-bound minimization (BSUM) algorithm is designed to solve the proposed optimization model. The convergence of our algorithm is theoretically guaranteed, and under some mild conditions, our algorithm converges to the coordinate-wise minimizers. Extensive experiments are conducted on the synthetic data and real data, and the results demonstrate the effectiveness and the efficiency of the proposed method.

Key words: Tensor completion, framelet, low-rank matrix factorization, block successive upper-bound minimization.

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