

Tensor-Train Decomposition for image classification

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Automatic Face Recognition has become increasingly important in the past few years due to its several applications in daily life. Numerical linear algebra tools have been extensively used for classification purposes. However, since several factors can affect the image, multilinear algebra tools seem to be a natural choice to deal with image classification.

We propose a new algorithm based on Tensor-Train Decomposition and we compare it with other related methods, such as the ones based on SVD and HOSVD (High-Order Singular Value Decomposition).

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