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An Efficient Approach for Speed up Non-Negative Matrix Factorization for High Dimensional Data

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Abstract : Now a day's applications deal with High Dimensional Data have tremendously used in the popular areas. To tackle with such kind of data various approached has been developed by researchers in the last few decades. To tackle with such kind of data various approached has been developed by researchers in the last few decades. One of the problems with the NMF approaches, its randomized valued could not provide absolute optimization in limited iteration, but having local optimization. Due to this, we have proposed a new approach that considers the initial values of the decomposition to tackle the issues of computationally expensive. We have devised an algorithm for initializing the values of the decomposed matrix based on the PSO (Particle Swarm Optimization). Through the experimental result, we will show the proposed method converse very fast in comparison to other row rank approximation like simple NMF multiplicative, and ACLS techniques.

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