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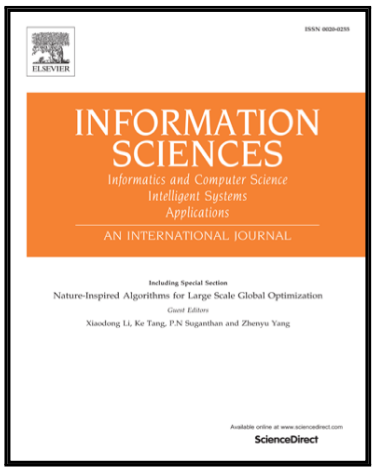

Conformal Matrix Factorization based Recommender System

Tadiparthi V.R. Himabindu, Vineet Padmanabhan, Arun K. Pujari

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Highlights

- We describe application of conformal prediction to matrix factorization to provide confidence values to each of the predictions made by the matrix factorization algorithm.
- We propose four different ways of applying conformal prediction to matrix factorization.
- We define different nonconformity measures suitable to matrix factoriza- tion.
- We experimentally proved the best nonconformity measure among the proposed nonconformity measures.
- We empirically demonstrate validity and efficiency of our CP algorithm and why our proposed algorithm failed in producing the tight prediction regions at higher confidence levels.
- We experimentally demonstrate the best approach between TCP and ICP for matrix factorization problem.
- We also compare execution time of the proposed methods with matrix factorization.

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