

Accepted Manuscript

Conformal Recommender System

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PII: S0020-0255(17)30646-1
DOI: [10.1016/j.ins.2017.04.005](https://doi.org/10.1016/j.ins.2017.04.005)
Reference: INS 12826



To appear in: *Information Sciences*

Received date: 18 June 2016
Revised date: 1 April 2017
Accepted date: 4 April 2017

Please cite this article as: Venkateswara Rao Kagita, Arun K. Pujari, Vineet Padmanabhan, Sandeep Kumar Sahu, Vikas Kumar, Conformal Recommender System, *Information Sciences* (2017), doi: [10.1016/j.ins.2017.04.005](https://doi.org/10.1016/j.ins.2017.04.005)

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Highlights

- A Conformal Recommender System (CRS) is developed that blends the concept of Conformal Prediction (CP) with Recommender System. It may be noted that there has not been any earlier attempt in this direction and it is certainly useful for the user to know the level of confidence of any recommendation.
- We propose a novel way of defining nonconformity measure for recommender systems by taking into consideration the *precedence probability* among items.
- We show empirically that all desired properties of conformal prediction such as *validity* and *efficiency* are observed by the proposed measure.
- We show through extensive experimentation that in this process we are in a position to have a better recommender system in terms of assigning confidence values to the recommended items and also in terms of more accurate recommendation.

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