



Home > Journal > Business & Economics | Computer Science & Communications > IIM

[Indexing](#) [View Papers](#) [Aims & Scope](#) [Editorial Board](#) [Guideline](#) [Article Processing Charges](#)

IIM > Vol.4 No.3, May 2012

OPEN ACCESS

A Contextual Item-Based Collaborative Filtering Technology

PDF (Size: 138KB) PP. 85-88 DOI : 10.4236/iim.2012.43013

Author(s)

Xueqing Tan, Pan Pan

ABSTRACT

This paper proposes a contextual item-based collaborative filtering technology, which is based on the traditional item-based collaborative filtering technology. In the process of the recommendation, user's important mobile contextual information are taken into account, and the technology combines with those ratings on the items in the users' historical contextual information who are familiar with user's current context information in order to predict that which items will be preferred by user in his or her current context. At the end, an experiment is used to prove that the technology proposed in this paper can predict user's preference in his or her mobile environment more accurately.

KEYWORDS

Context; Item-Based; Collaborative Filtering

Cite this paper

X. Tan and P. Pan, "A Contextual Item-Based Collaborative Filtering Technology," *Intelligent Information Management*, Vol. 4 No. 3, 2012, pp. 85-88. doi: 10.4236/iim.2012.43013.

References

- [1] G. Adomavicius, R. Sankaranarayanan, S. Sen and A. Tuzhilin, "Incorporating Contextual Information in Recommender Systems Using a Multidimensional Approach," *ACM Transactions on Information System*, Vol. 23, No. 1, pp. 103-145, 2005. doi:10.1145/1055709.1055714
- [2] S. Perugini, M. A. Goncalves and E. A. Fox, "Recommender Systems Research: A Connection-Centric Survey," *Intelligent Information Systems*, Vol. 23, No. 2, pp. 107-143, 2004. doi:10.1023/B:JIIS.0000039532.05533.99
- [3] R. Burke, "Hybrid Recommender Systems: Survey and Experiments," *User Modeling and User-Adapted Interaction*, Vol. 12, No. 4, 2002, pp. 331-370. doi:10.1023/A:1021240730564
- [4] R. C. Blatterg, B. Kim and S. A. Neslin, "Database Marketing," Springer Science + Business Media, New York 2008.
- [5] M. Setten, S. Pokraev and J. Koolwaajj, "Context-Aware Recommendations in the Mobile Tourist Application COMPASS," *Adaptive Hypermedia*, Vol. 3137, 2004, pp. 235-244. doi:10.1007/978-3-540-27780-4_27
- [6] K. Kabassi, "Personalizing Recommendations for Tourists," *Telematics and Informatics*, Vol. 27, No. 1, 2010, pp. 51-66. doi:10.1016/j.tele.2009.05.003
- [7] A. Chen, "Context-Aware Collaborative Filtering System: Predicting the User's Preference in the Ubiquitous Computing Environment," In: T. Strang and C. Linnhoff-Popien, Eds., *Location- and Context-Awareness*, Springer-Verlag, Berlin, 2005, pp. 75-81.
- [8] M. Gao and Z. Wu, "Personalized Context-Aware Collaborative Filtering Based on Neural Network and Slope One," In: H. Yu, Ed., *Cooperative Design, Visualization, and Engineering*, Springer-Verlag, Berlin, 2009, pp. 109-116.
- [9] A. K. Dey, "Understanding and Using Context," *Personal and Ubiquitous Computing*, Vol. 5, No. 1,

- [Open Special Issues](#)
- [Published Special Issues](#)
- [Special Issues Guideline](#)

[IIM Subscription](#)

[Most popular papers in IIM](#)

[About IIM News](#)

[Frequently Asked Questions](#)

[Recommend to Peers](#)

[Recommend to Library](#)

[Contact Us](#)

Downloads: 144,625

Visits: 361,871

[Sponsors >>](#)

- [10] A. Zimmermann, A. Lorenz and R. Oppermann, " An Op- erational Definition of Context," In: B. Kokinov, D. C. Richardson and T. R. Roth-Berghofer, Eds., Modeling and Using Context, Springer-Verlag, Berlin, 2007, pp. 558-571.
- [11] G. Adomavicius and A. Tuzhilin, " Context-Aware Recommender Systems," In: F. Ricci, L. Rokach, B. Shapira and P. B. Kantor, Eds., Recommender Systems Handbook, Part 1, Springer Science + Business Media, New York 2011, pp. 217-256.
- [12] Z. Huang, X. Lu and H. Duan, " Context-Aware Recom Mendation Using Rough Set Model and Collaborative Filtering," Artificial Intelligence Review, Vol. 35, No. 1, 2011, pp. 85-99. doi:10.1007/s10462-010-9185-7