Preference Mining for Personalization and Recommendation

Sandra de Amo

Universidade Federal de Uberlândia
Av. João Naves de Avila, 2121 – 38400-902 – Uberlândia, MG, Brazil
deamo@ufu.br

Abstract. The emerging of ubiquitous computing technologies in recent years has given rise to a new field of research consisting in incorporating context-aware preference querying facilities in database systems. One important step in this setting is the Preference Elicitation task which consists in designing automatic strategies for extracting preference information from the user without being invasive and bothersome. This talk is divided into three parts. The first part discusses formalisms for expressing preference data and presents different data mining techniques for extracting preference models from preference input data based in such formalisms. The second part focuses on the use of preference mining techniques for personalization. We present the CPrefSQL query language that extends the standard SQL with preference operators and incorporates preference models produced by preference mining algorithms in order to personalize query results. And finally, in the third part, we show how the preference mining techniques can be used for developing efficient recommendation systems. We present PrefRec, a general framework for developing recommendation systems using preference mining and preference aggregation techniques.
About the Author

Sandra de Amo is Associate Professor in the Faculty of Computer Science at the Federal University of Uberlândia, Brazil. She received her PhD in Computer Science from the University of Paris 13, France, in 1995 and her MSc in Mathematics from the Institute of Pure and Applied Mathematics (IMPA-Rio de Janeiro, Brazil). Her research interests include Data Mining, Query Languages, Preference Modeling and Reasoning, Personalization and Recommendation, Temporal Databases and Inconsistent Information Management in Databases. During the last fifteen years most of her research work in Data Mining, Query Languages and Preference Modeling and Reasoning has been in collaboration with researchers in LABRI (Laboratoire Bordelais d'Informatique – Université de Bordeaux I), LIG (Laboratoire d'Informatique de Grenoble - Université de Grenoble) and LI – Tours (Laboratoire d'Informatique - Université de Tours. She coordinated two research cooperation networks between France-Brazil in the last years. She has a research productivity grant from CNPq since 2007. She is currently a member of the Advisory Board of Exact Sciences of FAPEMIG (Foundation for Research Support of Minas Gerais, Brazil). She has integrated the Database Special Commission of the SBC from 2007 to 2011 and has been PC chair of the 20th SBBDD in 2008. She is an affiliate member of the ACM since 1999 and of the SBC since 1995.