

Data Mining: Artificial Intelligence in Data Analysis

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Abstract

Data mining is a fast-growing area. The first Knowledge Discovery in Databases Workshop was held in August 1989, in conjunction with the 1989 International Joint Conference on Artificial Intelligence, and this workshop series became the International Conference on Knowledge Discovery and Data Mining (KDD) in 1995. In 2003, there were a total of 15 data mining conferences, most of which are listed at <http://www.kdnuggets.com/meetings/meetings-2003-past.html>.

These 15 conferences do not include various artificial intelligence (AI), statistics and database conferences (and their workshops) that also solicited and accepted data mining related papers, such as IJCAI, ICML, ICTAI, COMPSTAT, AI & Statistics, SIGMOD, VLDB, ICDE, and CIKM.

Among various data mining conferences, KDD and ICDM (the IEEE International Conference on Data Mining) are arguably (or unarguably) the two premier ones in the field. ICDM was established in 2000, sponsored by the IEEE Computer Society, and had its first annual meeting in 2001.

This talk will review the topics of interest from ICDM from an AI perspective, and analyze common topics in data mining and AI, including key AI ideas that have been used in both data mining and machine learning. We will also discuss two current research projects on (1) user-centered agents for biological information exploration on the Web, and (2) dynamic classifier selection in dealing with streaming data. Both projects apply data mining techniques for intelligent analysis of large volumes of data.

Bio Sketch

Xindong Wu is Professor and Chair of the Department of Computer Science at the University of Vermont, USA. He holds a PhD in Artificial Intelligence from the University of Edinburgh, Britain. His research interests include data mining, knowledge-based systems, and Web information exploration. He has published extensively in these areas in various journals and conferences, including IEEE TKDE, TPAMI, ACM TOIS, IJCAI, AAAI, ICML, KDD, ICDM, and WWW.

Dr. Wu is the Executive Editor of Knowledge and Information Systems (a peer-reviewed archival journal published by Springer-Verlag), the founder and current Steering Committee Chair of the IEEE International Conference on Data Mining (ICDM), a Series Editor of the Springer Book Series on Advanced Information and Knowledge Processing (AI&KP), and the Chair of the IEEE Computer Society Technical Committee on Computational Intelligence (TCCI).