KDD-94 : AAAI-94 Workshop on Knowledge Discovery in Databases

FOREWORD

The rapid growth of data and information created a need and an opportunity for extracting knowledge from databases. Both researchers and application developers have been responding to that need. Knowledge Discovery in Databases (KDD) is an area of common interest for researchers in machine learning, machine discovery, statistics, intelligent databases, knowledge acquisition, data visualization, and expert systems. KDD applications have been developed for astronomy, biology, finance, insurance, marketing, medicine, and others.

This workshop continues in the tradition of the 1989, 1991, and 1993 KDD workshops by bringing together researchers and application developers from different areas, and focusing on unifying themes such as the use of domain knowledge, managing uncertainty, interactive (human-oriented) presentation, and applications. For the 1994 workshop we received 66 paper submissions, a record number. The majority of submissions (45) were from the USA and 21 submissions came from other countries. These included: Austria, Belgium, Canada (5), Finland, France (2), Germany, Japan (2), The Netherlands (3), New Zealand, N. Ireland, People's Republic of China, Russia, and Singapore. This degree of participation makes this workshop truly "International".

Each submitted paper was reviewed by at least two members of the program committee. Of the total of 66 submissions we received, the Program Committee recommended three classes of acceptance reflecting their preference order: presentation at the workshop (11), poster (12), and for inclusion in proceedings only (16). Hence the acceptance rate was about 60%.

Due to the large number of requests and interest in attending this workshop we expanded the number of invitees to 80, twice the normal size for AAAI workshops and larger than previous KDD workshops. The limit of 80 was determined by the available room size and hence we were unable to extend invitations to many others who were interested in attending. This rate of growth, and the level of interest in the workshop suggest that future meetings may go on to take the form of a formal conference with open registration.

In addition to the poster session, a demo session is also held where authors can demonstrate the discovery systems they have developed. Perhaps as a sign of maturity of this area, the KDD-94 workshop program includes a panel session to discuss a proposal for a terminologies and definitions document. This discussion is seeded by the effort of Willi Klosgen and Jan Zytkow who had been working on such a document for a while.

As in previous KDD Workshops, a selected set of papers from this workshop will be considered for publication in journal special issues and possibly as chapters in a volume on KDD.

Work on addressing core problems in KDD is still ongoing, with most problems of representation issues, search complexity, the use of prior knowledge, and statistical inference still open and requiring major attention. Nevertheless, successful applications continue to appear, driven mainly by a glut in databases that have clearly grown to surpass raw human processing abilities. KDD represents a unifying area for all researchers and practitioners who face the problem of extracting useful knowledge out of the volumes of data populating the tens of millions of databases around the world. As the size of these databases grows from the current gigabytes, to the foreseeable terabytes, and beyond, the area of KDD will grow in importance, and will hopefully present humanity with some solutions to managing the data load.

We are grateful to the program committee for their input and advice and to Gregory Piatetsky-Shapiro and Evangelos Simoudis for organizing the posters and demo sessions. We especially thank Gregory Piatetsky-Shapiro for his help and advice and for sharing his experiences in conducting previous KDD Workshops. We are particularly grateful to all the researchers and practitioners who submitted papers and made this workshop possible.

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