中国科学院计算技术研究所
Institute of Computing Technology,Chinese Academy of Sciences

中科院智能信息处理重点实验室

学 术 报 告

学术报告：**A TOUR OF MACHINE LEARNING, FROM CURRENT TO FUTURE RESEARCH**

时间:：2008 年 5 月 26 日（周一）上午 10:00-12:00

地点：**446** 会议室

报告人：Professor **Sunil Vadera**

摘要：Machine learning is widely being applied in many applications in Science, Engineering and Commerce.   This seminar aims to present a tour of machine learning research; beginning with the motivation for utilizing machine learning methods, it presents a selection of illustrative applications, summarizes some of the authors research and concludes by identifying current and future research topics.

The research topics covered include an overview of the authors work in the areas of cost-sensitive decision tree learning, Bayesian networks, Sensor Validation and Exemplar based models as well as some well known applications of neural networks.

The presentation will conclude with an indication of the current and future research trends in using various AI methods, including neural networks, genetic algorithms, and case based reasoning in various application areas such as scheduling, fault diagnosis, design, process planning, quality assurance and maintenance that is based on survey of over 1200 papers.

The aim of the tour is very much to encourage researchers to think more carefully about the future direction of their research but will be based on parts of the following papers where   more complete technical details can be found.

简历：

Sunil Vadera is a Professor of Computer Science at the University of Salford and is the current Chair of the British Computer Society Academic Accreditations Committee. He has been the Associate Head of Teaching for the School of Computing, Science and Engineering since 2003.   He holds a PhD from the University of Manchester, and is a Fellow of the British Computer Society. He was appointed a lecturer in 1984, a Senior Lecturer in Computer Science in 1997 and promoted to a full Professor in 2000. During this period, his research interests were in the area of formal methods of software development which led to publications in journals such as the Computer Journal, Formal Aspects of Computing and the Software Engineering Journal.

More recently, his research is driven by the desire to close the gap between theory and practice in artificial intelligence. This has included work on sensor validation with the Mexican Instituto de Electricas that has been published in the IEEE Transactions of Power Systems and work on decision tree learning that has appeared in the Expert Systems Journal. His applied research includes the development of Dust-Expert™, a system that advises on the relief venting of explosions in chemical processes. He is co-founder of the European Conference on Intelligent Management Systems in Operations, held at Salford since 1997 and has co-edited several special issues of the Journal of Operational Research Society.

Further details and list of publications can be found at:
www.cse.salford.ac.uk/profiles/vadera

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