
Preface

The fusion of artificial intelligence (AI) with decision support systems (DSSs) is opening exciting new areas of research and application. The resulting systems are smarter, more efficient, adaptable, and better able to aid human decision making. While AI aims to mimic human behaviour in limited ways, DSSs attempt to help humans make the best choice among a set of possible choices given explicit or implied criteria. Long a topic of science fiction, AI today is demonstrating that it can be integrated effectively into real systems and that it offers the only way possible to capture aspects of human intelligence such as learning. The combination of AI and DSSs provides formidable new computational assistants to humans that extend their capabilities in routine and complex stressful environments. Due to the increasing maturity of this interdisciplinary field as evidenced by the recent growth in the number of research publications and contributors entering the field, a book that explores the current state and future outlook of intelligent DSSs seems appropriate.

The book is organized around three themes. The first two chapters provide a solid foundation by exploring studies and theories of human decision making. They trace some one hundred years of research including recent work by the well-known authors and provide a vision of the use of computerized decision aids. The second section deals with paradigms and methods associated with AI in DSS. The final section provides sample applications among the many that are appearing today and gives our perspective on future research directions needed to advance the field.

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