L.A. Zadeh, K.S. Fu. H. Tanaka, M. Shimura (Eds)

FUZZY SETS AND THEIR APPLICATIONS TO COGNITIVE AND DECISION PROCESSES

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The central issue of our time may well turn out to be the management of economic systems. Models of decision processes are now built with the hope that a better understanding will make it easier to improve actual economic systems operation. The past few years, however, have witnessed a growing criticism of the tendency to analyse economic systems as if they were mechanistic systems. This volume is an example and represents a substantial departure from the conventional techniques of systems analysis. The papers presented in this volume, contributed by participants in the US-Japan Seminar on Fuzzy Sets and Their Applications, held at the University of California in July 1974, extend and reflect upon the original efforts of Professor Zadeh. In a paper on risk and decision making in a fuzzy environment SSL Chang notes that " there is no longer an optimum policy but a class of optimum policies with varying degrees of risk which can be clarified with the help of fuzzy set theroy". LW Fung and KS Fu dealing with an axiomatic approach to rational decision making in a fuzzy environmnet observe that "the notion of fuzzy sets can be incorporated into the problems as a very handy tool". K Asai, H Tanaka, and T Okuda begin their paper on decision making and its goal in fuzzy environment with the remark that "it is becoming increasingly clear that in many real world problems we have more to do with fuzziness rather than randomness". L. A. Zadeh in a paper on calculus of fuzzy restrictions stresses that "approximate reasoning is more than a method of last recourse for coping with insurmountable complexities; it is, also, a way of simplifying the performance of tasks in which a high degree of precision is neither needed nor required". Perhaps no other single present-day idea in decision making has generated as much interest as has this one. Practitioners with some modest acquintance with calculus, or theoreticians who want to see stimulating applications, will find this a good book through which to pick up a variety of basic ideas with little effort.

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