Abstract

An interval type-2 TSK fuzzy logic system can be obtained by considering the membership functions of its existed type-1 counterpart as primary membership functions and assigning uncertainty to cluster centers, standard deviation of Gaussian membership functions and consequence parameters. In many cases it has been difficult to determine the spread
percentages for these parameters to obtain an optimal model. In order to develop robust and reliable solutions for the problems, this paper distinguishes the differences between type-2 TSK system and its counterpart, analyzes the sensibility of the outputs of a type-2 TSK fuzzy system, and discusses the approximation capacities of type-2 TSK FLS and its type-1 counterpart as well.

Reference

Type-2 TSK Fuzzy Logic System and its Type-1 Counterpart

(WCCI 2010, FUZZ-IEEE 2010), Barcelona, Spain, 2313-2317.

Index Terms

Computer Science

Fuzzy Systems

Key words

fuzzy logic system

membership functions

uncertainty

sensibility

capability