

Testing Hypotheses of Fuzzy Mean and Fuzzy Variance

Abstract

In many expositions of fuzzy methods, fuzzy techniques are described as an alternative to a more traditional statistical approach. In this paper, we present a class of fuzzy statistical decision process in which testing hypothesis can be naturally reformulated in terms of interval-valued statistics. We provide the definitions of fuzzy mean, fuzzy distance as well as investigation of their related properties. We also give some empirical examples to illustrate the techniques and to analyze fuzzy data. Empirical studies show that fuzzy hypothesis testing with soft computing for interval data are more realistic and reasonable in the social science research. Finally certain comments are suggested for the further studies. We hope that this reformation will make the corresponding fuzzy techniques more acceptable to researchers whose only experience is in using traditional statistical methods.

Key words: Membership function, fuzzy sampling survey, fuzzy mean, human thought, t -test, F -test, normally distributed.