Abstract

Introduction of flexibility and intelligence in the wireless devices and applications have introduced the concept of Cognitive Radio. This research objective has inspired various research activities on going which included the decision making aspects. In this paper, a decision making process in cognitive radio is analyzed using fuzzy logic system, in which secondary user can use the spectrum effectively. We have selected three descriptive factors for choosing the proper secondary unlicensed user – velocity of the secondary user, spectrum to be utilized by secondary user and distance of the secondary user from primary user. The efficiency of the decision making process in cognitive radios is analyzed. Based on linguistic knowledge 27 rules are set up. The output of the fuzzy logic system gives the probability of the decision based on the three descriptive factors. We show how fuzzy logic system can be used for decision making operation in cognitive radio.
Reference

- L. A. Zadeh, Fuzzy Sets, Information and Control, 1965
Analysis of Decision Making Operation in Cognitive Radio Using Fuzzy Logic System


Index Terms

Computer Science
Intelligent Systems

Key words

Fuzzy Logic
Cognitive Radio