

The concepts of precisiation and cointension

Machines cannot think like humans do, yet. In order to make a machine perform tasks, it needs clear instructions. As Zadeh states: "In a one-way communication via natural language between a human (sender) and a machine (recipient), mm-precisiation is a necessity because a machine cannot understand unprecisiated natural language." [2, 2760]. Because reality is fuzzy, and most concepts in science are fuzzy, tasks need to be translated for machines to understand. Zadeh explains the different modalities of precisiation and expands on the fact that bivalent logic is often not cointensive. These concepts are explained regorously in chapter three of the paper. The purpose of the text is to convince the reader of the value that fuzzy logic may offer over a bivalent-logic-based approach, and that the implications are important for science.

The definitions used in this text were new to me.

In the text "Computational theory of perceptions" [2, 2770], Zadeh

Zadeh states that many concepts in science are a matter of degree, and that therefore bivalent-logic-based definitions of scientific concepts are not cointensive [2, 2769], meaning that the precisiated meaning is not close from the actual meaning. Then he states that fuzzy logic is a necessity to formulate cointensive definitions of fuzzy concepts.

The text uses explicit terms, that were often unfamiliar to me, to describe important concepts, forcing me to investigate and broaden my knowledge. The word 'precisiation' may not be found in a dictionary, but Zadeh has defined, used, and expanded upon the concept in preceding chapters and other writings such as [1]. Another term 'cointension' is explained in detail [2, 2760].

Question 2

References

- [1] L.A. Zadeh, "The Concept of Cointensive Precisiation - A key to Mechanization of Natural Language Understanding".
- [2] L.A. Zadeh, "Is there a need for fuzzy logic?", In Information Sciences, Volume 178, Issue 13, 2008, Pages 2751-2779, ISSN 0020-0255.