# Evolving Context in Fuzzy Linguistic Summaries

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Linguistic summaries in the sense of Yager and Kacprzyk [1] enable the description of large datasets with natural language. In this contribution, we work with the general case of fuzzy summaries in the following form:

$$Q \; R_1 \star \ldots \star R_k \; y\text{'s are } P_1 \diamond \ldots \diamond P_l, \tag{1}$$

where $\star, \diamond \in \{\text{AND, OR}\}$. Note that connectives 'AND', and 'OR' expressed by text can be translated into fuzzy connectives - a fuzzy conjunction, and a fuzzy disjunction, respectively (more specifically usually into a t-norm, a t-conorm).

We will discuss the consistency of fuzzy summaries, mainly focusing on the double negation property. Finally, we will consider some practical examples demonstrating the need to handle evolving context and discuss its consequences on linguistic summarization.

# References

[1] Kacprzyk, J., Yager, R. R., and Merigo, J. M. Towards human-centric aggregation via ordered weighted aggregation operators and linguistic data summaries: A new perspective on zadeh's inspirations. *IEEE Computational Intelligence Magazine*, 14(1):16–30, 2019.