New Contexts in Aggregation Theory

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Description:

Through the years, aggregation theory has established itself as one of the main subfields of fuzzy set theory. In the most classical approach to the topic, aggregation functions arise in the context of combining degrees of truth or membership values, both of which are generally confined to the unit interval. For this very reason, most of the developed theory focuses on aggregation functions on the unit interval or, more broadly, on a bounded and closed real-valued interval.

However, researchers of many different fields have studied aggregation processes on structures richer than that of bounded and closed intervals. Examples of such structures include compositional data in geochemistry, directional data in biology, functional data in functional data analysis, image data in computer vision, multivariate data in multivariate statistics, ranking data in social choice theory and string data in computer science.

This special session continues a rich tradition of special sessions on aggregation theory established during previous EUSFLAT conferences by offering a platform for researchers interested in aggregation across unconventional data structures. Both applied and theoretical contributions that explore aggregation techniques beyond traditional real-valued intervals are invited. Additionally, contributions related to the incorporation of aggregation functions within data summary techniques are welcome.