

Topological approaches in machine learning

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Abstract Plenty of machine learning algorithms have been proposed so far either for supervised or unsupervised learning. Over all, these algorithms stress more on the metrical aspect than on the topological relations between the data set. In this talk we will show why the topological relation is more informative than the metric. We introduce some techniques, based on computational geometry, that show up the topological structure of the data set. Then, we will present some methodological approaches that exploit the topological relationship for the tasks of classification or clustering.