

A WINDOW TO THE PERSISTENCE OF LINEAR LISTS OR MAPS

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With increasing sizes of data, there is also an increase in the number and size of maps that describe aspects of data. This talk will give a systematic answer to the question which features of a continuous maps are how important. For real-valued maps on an interval or a circle, we get a hierarchical organization of the features with elementary means and efficient algorithm that dynamically maintain this hierarchy with path-decomposed ordered binary trees. We mention here that this approach generalizes to higherdimensional maps and is used under the name of persistent homology in topological data analysis. This more general view of the subject will not appear during the main part of the talk but can be discussed afterwards if there is interest.

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