
Component-trees: Structural and spectral extensions

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Abstract

The component-tree is a popular data structure, involved in grey-level image modelling and processing. Basically, a component-tree can be seen as the Hasse diagram of the inclusion relation for the threshold-sets of a non-directed graph, which vertices are endowed with totally ordered values. In this talk, we will discuss about various ways of extending the component-tree beyond its current hypotheses (from non-directed to directed graphs; from total to partial orders on values; ...), with the purpose to design new data structures, with a wider applicative range. We will present recent results on these topics, but also the remaining challenges to be tackled.

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