
Austin Benson
Higher-order organization of complex networks

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Two of the fundamental analyses in network science are clustering (partitioning, community detection) and the frequency of network motifs, or patterns of links between nodes. In this work, we develop spectral algorithms to find network community structure defined by motifs. The central computational kernel of our method is a large sparse eigenvalue problem. We show several examples of motif-based communities in networks from a variety of scientific domains.