

# Succinct Representations of Graphs

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## Abstract

We consider the problem of finding succinct representations of graphs, that is, encodings using asymptotically the minimum number of bits which support queries on the graphs efficiently. For a special class of graphs, there exist many theoretical results and practical implementations on ordered trees. On the other hand, for wider classes of graphs, though there are many results on counting the number of non-isomorphic graphs belonging to a graph class, there were few number of results on their succinct representations until recently.

In this talk, we review some recent results on succinct representations of graphs such as interval, permutation, circle, circular-arc, trapezoid, circle-trapezoid,  $k$ -polygon, circle-polygon, cograph, separable, ptolemaic, distance hereditary, clique width  $k$ , block, cactus, series-parallel, planar, tree width  $k$ , path, boxicity  $k$ , chordal bipartite, strongly chordal, chordal graphs, etc.

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