Distance-preserving subgraphs of interval graphs *

Kshitij Gajjar

Tata Institute of Fundamental Research, Mumbai

Given a large graph with a small subset of vertices called the terminals, a subgraph of the large graph is called distance-approximating if it is a supergraph of the terminals and it approximates the distance between every pair of terminal vertices up to an additive constant. If the additive constant is zero, then the subgraph is called distance-preserving.

A branching vertex in a graph is a vertex of degree at least three. The objective is to find a distance-approximating (-preserving) subgraph of the given graph that minimizes the number of branching vertices. In this talk, we will motivate the problem and see some proofs regarding the optimal number of branching vertices when the given graph is an interval graph.

*Based on a joint work with Jaikumar Radhakrishnan.