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Graph Embedding by Filtering Pre-embeddings via a Distance-Aware Metric

Fast and space-efficient embedding of problem graphs to a given system is an important module for partitioning solvers like qbsolv. Recursive-bisection connectivity (RBC) as a metric describes the connectivity of a graph while incorporating a notion of distance within the graph. We describe a two-phase embedding approach that a) in advance creates numerous pre-embeddings of a given problem size and connectivity and b) at embedding time eliminates infeasible pre-embeddings quickly using RBC as a filter before graph matching is finally attempted. The algorithm and early results are described.