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The summation and bottleneck minimization for single step searching on weighted graphs

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Abstract

In this paper, three types of problems for single-step searching weighted graphs are defined. They are the summation cost minimization, the bottleneck cost minimization, and a hybrid to minimize the maximum of the summation cost and the bottleneck cost. All three are shown to be NP-hard but polynomially solvable for trees. The bottleneck minimization is shown to be reducible to the summation minimization problem.