INTERACTIVE SEARCH IN GRAPHS

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Searching plays a fundamental role in computer science and computer engineering due to its ubiquitous real-world applications and its numerous connections to other important computational problems. In searching we want to locate a known element, whose location in the search space is unknown, by querying different locations of the search space in a sequence of steps. In interactive search an emphasis is made on the type and amount of information revealed through the queries, and how to exploit this information in search algorithms. In this poster, we describe applications of an interactive search model (i.e., binary search in node-weighted trees) in data retrieval systems. In this search model, in each step, the algorithm queries a vertex q and receives an answer, that either q is the desired element, or receives the neighbor of q closer to the target than q. While each query has a cost given by the weight function, the goal is to find an adaptive search strategy requiring the minimum cost in the worst case.