

Using Locality for Efficient Query Evaluation in Various Computation Models

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Abstract

In the database theory and logic literature, different notions of *locality* of queries have been studied, the most prominent being Hanf locality [6, 4, 12] and Gaifman locality [5, 8]. These notions are designed so that, in order to evaluate a local query in a given database, it suffices to look only at small neighbourhoods around tuples of elements that belong to the database.

In this talk I want to give a survey of how to use locality for efficient query evaluation in various computation models. In particular, we will take a closer look at how to enumerate query results with constant delay [2, 9, 3], and at how to evaluate queries in a map-reduce like setting [11] or in Pregel [10]. Also, we will have a closer look at how to transform a given local query into a form suitable for exploiting its locality [1, 7].

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Category Invited Talk

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