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DEGLI STUDI
DI PALERMO

Dipartimento di Matematica e Informatica

Words
and
Automata
Research
Group

Seminar Announcement

Jumble Pattern Matching: no strings attached

Ferdinando Cicalese, University of Salerno

Thursday 20th February 2014, 3 p.m.

Room 7, Via Archirafi 34, 90123 Palermo

Given a string over a finite alphabet the Jumbled pattern matching problem asks for fast procedures to identify the existence and/or position of substrings matching a given multiset of characters (the jumbled pattern). The indexing version of the problem asks to preprocess the string producing a small data structure which allows to answer the above questions quickly (in the size of the pattern).

Very recently, the horizon of the problem has been moved beyond the realm of strings. We will describe some of these new results and new research directions opened up. We will deal with the problem of indexing trees and graphs for jumbled pattern matching when we are asked to return a match if one exists. For example, we show how, given a tree containing two colors, we can build a quadratic-space index with which we can find a match in time proportional to the size of the match. We also show how we need only linear space if we are content with approximate matches.

We will touch upon very recent results on the a geometric extension of jumbled pattern matching to the case of colored point sets.

For further information:

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All interested people, in particular students, are invited to participate