Università degli Studi di Palermo

Dipartimento di Matematica e Informatica

Words and Automata Research Group

ANNUNCIO DI SEMINARIO

Titolo: The rightmost equal-cost position problem

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Abstract:

LZ77-based compression schemes compress the input text by replacing factors in the text with an encoded reference to a previous occurrence formed by the couple (length, offset). For a given factor, the smallest is the offset, the smallest is the resulting compression ratio. This is optimally achieved by using the rightmost occurrence of a factor in the previous text. Given a cost function, for instance the minimum number of bits used to represent an integer, we define the Rightmost Equal-Cost Position (REP) problem as the problem of finding one of the occurrences of a factor whose cost is equal to the cost of the rightmost one. We present the Multi-Layer Suffix Tree data structure that, for a text of length n, at any time i, it provides REP(LPF) in constant time, where LPF is the longest previous factor, i.e. the greedy phrase, a reference to the list of REP({set of prefixes of LPF}) in constant time and REP(p) in time $O(|p| \log \log n)$ for any given pattern p.

Tutti gli interessati, in particolare gli studenti, sono invitati a partecipare.