

Seminar Announcement

Bounds on two LZ78-style Grammars

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Thursday 9th March 2017, 3 p.m.

Room 7, Via Archirafi 34, 90123 Palermo

We investigate two closely related LZ78-based compression schemes: LZMW (an old scheme by Miller and Wegman) and LZD (a recent variant by Goto et al.). Both LZD and LZMW naturally produce a grammar for a string of length n ; we show that the size of this grammar can be larger than the size of the smallest grammar by a factor $\Omega(n^{1/3})$. We also show that the standard algorithms using $\Theta(z)$ working space to construct the LZD and LZMW parsings, where z is the size of the parsing, work in $\Omega(n^{5/4})$ time in the worst case.

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