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MADALGO seminar by Jérémy Barbay, Universidad de Chile

Compressed Representations of Permutations, and Applications

Abstract: We explore various techniques to compress a permutation π over n integers, taking advantage of ordered subsequences in π , while supporting its application $\pi(i)$ and the application of its inverse $\pi^{-1}(i)$ in small time. Our compression schemes yield several interesting byproducts, in many cases matching, improving or extending the best existing results on applications such as the encoding of a permutation in order to support iterated applications $\pi^k(i)$ of it, of integer functions, and of inverted lists and suffix arrays.

Joint work with Gonzalo Navarro