

Oberseminar Theoretische Informatik
Sommersemester 2008

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Fixed-Parameter Algorithms for Kemeny Scores

Monday, May 19 at 2pm (c.t.) in room 3319 (Ernst-Abbe-Platz 2, floor 3).

The KEMENY SCORE problem is central to many applications in the context of rank aggregation. Given a set of permutations (votes) over a set of candidates, one searches for a “consensus permutation” that is “closest” to the given set of permutations. Computing an optimal consensus permutation is NP-hard. We provide first, encouraging fixed-parameter tractability results for computing optimal scores (that is, the overall distance of an optimal consensus permutation). Our fixed-parameter algorithms employ the parameters “score of the consensus”, “maximum distance between two input permutations”, and “number of candidates”. We extend our results to votes with ties and incomplete votes, thus, in both cases having no longer permutations as input.

Homepage:

<http://theinfl.informatik.uni-jena.de/teaching/ss08/oberseminar-ss08>