Oberseminar Theoretische Informatik
Wintersemester 2008/2009

Hannes Moser

A Problem Kernelization for Graph Packing

Monday, November 3 at 3:15pm in room 3319 (Ernst-Abbe-Platz 2, floor 3).

For a fixed connected graph H, we consider the NP-complete H-packing problem, where, given an undirected graph G and an integer $k \geq 0$, one has to decide whether there exist k vertex-disjoint copies of H in G. We give a problem kernel of $O(k^{|V(H)|-1})$ vertices, that is, we provide a polynomial-time algorithm that reduces a given instance of H-packing to an equivalent instance with at most $O(k^{|V(H)|-1})$ vertices. In particular, this result specialized to H being a triangle improves a problem kernel for Triangle Packing from $O(k^3)$ vertices by Fellows et al. [WG 2004] to $O(k^2)$ vertices.

Homepage:
http://theinf1.informatik.uni-jena.de/teaching/ws0809/oberseminar-ws0809