Prof. Stefan Kratsch

Faculty of Mathematics and Natural Sciences
Department of Computer Science
Algorithm Engineering



Expertise
The chair of Algorithm Engineering performs fundamental research of algorithmic problems. The goal of our research is to find algorithms that solve problems provably quickly by using of structural properties of typical input instances. The obtained parameterized algorithms can solve appropriately structured instances of problems in good time even though the problems are hard to solve in general, e.g. problems in integer optimization or logistics. Generally, by taking into account structural properties of the input data one can optain provably faster algorithms. Another topic of the chair are different forms of efficient processing, e.g. fast data reduction for difficult problems in order to reduce the cost of the actual computation. Similarly, preprocessing is essential in order to allow fast processing of queries within a given set of data.

Topics / Trends
Big Data & Data Management

Industries
Education
Energy, Utilities & Raw Materials
Mobility & Logistics

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