

Raible, Daniel; Fernau, Henning

A new upper bound for Max-2-SAT: A graph-theoretic approach. (English) [Zbl 1173.68539](#)
Ochmański, Edward (ed.) et al., Mathematical foundations of computer science 2008. 33rd international symposium, MFCS 2008, Toruń Poland, August 25–29, 2008. Proceedings. Berlin: Springer (ISBN 978-3-540-85237-7/pbk). Lecture Notes in Computer Science 5162, 551-562 (2008).

Summary: In MaxSat, we ask for an assignment which satisfies the maximum number of clauses for a Boolean formula in CNF. We present an algorithm yielding a run-time upper bound of $\mathcal{O}^*(2^{\frac{K}{6.2158}})$ for Max-2-Sat (each clause contains at most 2 literals), where K is the number of clauses. The run-time has been achieved by using heuristic priorities on the choice of the variable on which we branch. The implementation of these heuristic priorities is rather simple, though they have a significant effect on the run-time. Also the analysis uses a nonstandard measure.

For the entire collection see [\[Zbl 1154.68021\]](#).

MSC:

[68Q25](#) Analysis of algorithms and problem complexity
[68T20](#) Problem solving in the context of artificial intelligence (heuristics, search strategies, etc.)

Cited in **2** Documents

Software:

[MAX-2-SAT](#)

Full Text: [DOI](#)