

Problem Size Features:

1. **Number of clauses:** denoted c
2. **Number of variables:** denoted v
- 3-5. **Ratio:** c/v , $(c/v)^2$, $(c/v)^3$
- 6-8. **Ratio reciprocal:** (v/c) , $(v/c)^2$, $(v/c)^3$
- 9-11. **Linearized ratio:** $|4.26 - c/v|$, $|4.26 - c/v|^2$, $|4.26 - c/v|^3$

Variable-Clause Graph Features:

- 12-16. **Variable nodes degree statistics:** mean, variation coefficient, min, max and entropy.
- 17-21. **Clause nodes degree statistics:** mean, variation coefficient, min, max and entropy.

Variable Graph Features:

- 22-25. **Nodes degree statistics:** mean, variation coefficient, min, and max.

Clause Graph Features:

- 26-32. **Nodes degree statistics:** mean, variation coefficient, min, max, and entropy.
- 33-35. **Weighted clustering coefficient statistics:** mean, variation coefficient, min, max, and entropy.

Balance Features:

- 36-40. **Ratio of positive and negative literals in each clause:** mean, variation coefficient, min, max, and entropy.
- 41-45. **Ratio of positive and negative occurrences of each variable:** mean, variation coefficient, min, max, and entropy.
- 46-48. **Fraction of unary, binary, and ternary clauses**

Proximity to Horn Formula

49. **Fraction of Horn clauses**

- 50-54. **Number of occurrences in a Horn clause for each variable :** mean, variation coefficient, min, max, and entropy.

LP-Based Features:

55. **Objective value of linear programming relaxation**
56. **Fraction of variables set to 0 or 1**
- 57-60. **Variable integer slack statistics:** mean, variation coefficient, min, max.

DPLL Search Space:

- 61-65. **Number of unit propagations:** computed at depths 1, 4, 16, 64 and 256
- 66-67. **Search space size estimate:** mean depth to contradiction, estimate of the log of number of nodes.

Local Search Probes:

- 68-71. **Minimum fraction of unsat clauses in a run:** mean and variation coefficient for SAPS and GSAT (see [17]).
- 72-81. **Number of steps to the best local minimum in a run:** mean, median, variation coefficient, 10^{th} and 90^{th} percentiles for SAPS and GSAT.
- 82-85. **Average improvement to best:** For each run, we calculate the mean improvement per step to best solution. We then compute mean and variation coefficient over all runs for SAPS and GSAT.
- 86-89. **Fraction of improvement due to first local minimum:** mean and variation coefficient for SAPS and GSAT.
- 90-91. **Coefficient of variation of the number of unsatisfied clauses in each local minimum:** mean over all runs for SAPS and GSAT.