A Literal based Bipartite Graph

The embeddings used in this representation are a modified version of those proposed by [18, 19], where certain literal-based metrics replace some of the variable-based metrics. Table 5 shows the details of the embeddings used as the initial representation for each node.

Table 5. Literal, Constraint, and Edge Embeddings for the literal-based bipartite graph representation.

Name	Meaning
Literal Embeddings	
`obj`	Normalized coefficient of the literal in the objective function.
`l_coeff`	Mean coefficient of the literal over all constraints in which it occurs.
`Nl_coeff`	Number of constraints in which the literal appears.
`max_coeff`	Maximum coefficient value among all constraints for the literal.
`min_coeff`	Minimum coefficient value among all constraints for the literal.
`Nv_coeff`	Number of constraints in which the corresponding variable occurs.
Constraint Embeddings	
`c_coeff`	Average of all coefficients in the constraint.
`Nc_coeff`	Degree of the constraint node in the bipartite representation.
`rhs`	Right-hand-side value of the constraint.
`sense`	The sense of the constraint (0 if $=$, 1 if $\geq$, -1 if $\leq$).
Edge Embeddings	
`coeff`	Coefficient of the literal in the constraint