Constraint Programming for Data Mining

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In this talk I shall explore the relationship between constraint-based mining and constraint programming. In particular, I shall show how the typical constraints used in pattern mining can be formulated for use in constraint programming environments. The resulting framework is surprisingly flexible and allows one to combine a wide range of mining constraints in different ways. The approach is implemented in off-the-shelf constraint programming systems and evaluated empirically. The results show that the approach is not only very expressive, but also works well on complex benchmark problems.

In addition to providing a detailed account of our actual initial results for item-set mining, I shall also argue that the use of constraint programming techniques and methodologies provides a new and interesting paradigm for data mining.

The work I will report on is joint work with Tias Guns and Siegfried Nijssen.

References

De Raedt, L., T. Guns, and S. Nijssen (2008). Constraint programming for itemset mining. In *Proc. of the SIGKDD*.