

2 - Data Mining through Alice-to-Alice Cryptography

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The issue of mining encrypted data, in order to protect confidential information while permitting knowledge discovery is faced. Consider a scenario in which a company or organization negotiates a deal with a consultant - miner. The miner will be unable to extract meaningful information neither from the raw data, nor from the extracted rules. Having applied the data mining algorithms, the consultant provides the organization with the extracted rules. Finally, the organization decrypts those rules so as to restore their true meaning. This approach is known as Alice-to-Alice cryptography.

3 - Data Mining via Optimization Heuristics

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Several methods of data mining perform rule extraction from observed data set. Every rule is supposed to be in Horn form. Raw data must be converted to the logic domain by binarization or fuzzification first. The set of permitted rules has to be reduced to minimum one, which is a chance for optimization heuristics. The task is convertible to set covering problem and then solved by greedy method, frequent method, stochastic or integer programming techniques. Heuristic nature of any reasonable method is necessary due to NP-complexity of covering task.

■ WA-39

Wednesday, 8:30-10:00

Room SB 211

Higher Order Optimisation and Machine Learning

Stream: Machine Learning and Optimisation

Invited session

I will discuss the
minimization and the
general yet efficient
main part I will
discuss how these al-
gorithms can be cas-
tling insights to
supervised classifi-
cation Support Vector

■ WA-4

Wednesday, 8:

Room RB 116

Queuing

Stream: Simulation
Modelling (C)

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