

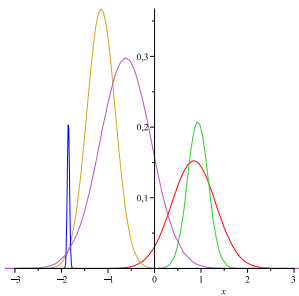
Diploma-/ Master Thesis

Data Mining for detecting fraudulent activities in enterprise environments

Background

Business crime causes losses in the billions each year. In order to solve such cases of crime and reduce their harm, huge amounts of data have to be analyzed. This cannot be done efficiently without IT-based methods. Especially, the accounting data of enterprises need to be analyzed for locating money drains. Current methods either try to find single suspicious entries and inconsistencies or they try to detect abnormal characteristics of the entire data. The latter scenario can be paraphrased as “Data Mining” or “Knowledge Discovery in Databases” and essentially involves statistical methods.

Task



Many such methods need some setup before they can be applied. E.g. statistical tests need a decision for the type of reference distribution; clustering methods require a predefined number of clusters or a predefined threshold for separating clusters. The task is to design and implement procedures which find good setups automatically when providing data to them.

Requirements

- Good knowledge in statistics is required. Probability distributions, random variable and statistical tests should be well known concepts.
- Experience in data mining is of great advantage.
- For implementation Java and MySQL are needed.

Beginning

Immediately or upon agreement

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