Data Selection in Machine Learning

Scope and topics

Data selection focuses on reducing the training time and, at the same time, taking advantage to do better predictions. Too much information is not handy at all since uninformative samples or features may be learnt and consequently the ability to generalize could be hindered. Addressing any problem may mean not having prior knowledge and even to become able, through data selection and even transformation measure, to learn the important data for the forthcoming prediction on unseen data. Depending on the followed methodology to conduct the process model for data mining, the data selection may be named with different names although the core is the same. Tools based on graphical user interfaces are of particular interest in the sense that may make easier the procedure to refine the raw data and eventually to get the ready data to face the mining phase. Data pre-processing deals with many tasks such as data cleansing, attribute selection, instance selection, noise reduction and detecting wrong or distorted labels. Visual data analytics is on the rise especially in multi-dimensional business applications. We encourage to submit very recent applications and if possible unprecedented. Additionally, new theoretical or empirical approaches are welcome. The topics of interest for this session include, but are not limited to:

- Data selection
- Data pre-processing
- Data cleansing
- Data engineering
- Attribute selection
- Instance selection
- Data fusion
- Data mining
- Text mining
- Speech mining
- Signal mining
- Stream mining
- Motif mining
- Itemset mining
- Sequential pattern mining
- Frequent pattern mining
- Infrequent pattern mining
- Rare pattern mining

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