

Multicriteria approach to event detection in data stream

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Abstract:

Algorithms to data stream mining are becoming one of the key research area in data mining. The classical statistical learning theory is not efficient for streaming data. The new methods should be developed to overcome shortcoming of classical learning algorithm. One of the direction of algorithms advancement is application of online optimization [1, 2]. Moreover, data stream mining algorithms requires to consider a multiple criteria simultaneously. In the event detection algorithms the output function has two values that are equivalent to information that event occurred or not. In the detection algorithms it is useful to have information about the strength of the event. In this paper we will introduce event strength function (ESF). This function is applied to multicriteria event detection. In this paper we apply online optimization to data stream mining for event detection in telecommunication networks.

References

- [1] S. Bubeck: *Introduction to Online Optimization*. Lecture Notes, Princeton University, 2011.
- [2] Shai Shalev-Shwartz: *Online Learning and Online Convex Optimization*. Foundations and Trends in Machine Learning, Volume 4, Issue 2, 2012, DOI: 10.1561/22000000018.