

## Incremental Learning of Independent Topic Analysis

**Authors :** Takahiro Nishigaki, Katsumi Nitta, Takashi Onoda

**Abstract :** In this paper, we present a method of applying Independent Topic Analysis (ITA) to increasing the number of document data. The number of document data has been increasing since the spread of the Internet. ITA was presented as one method to analyze the document data. ITA is a method for extracting the independent topics from the document data by using the Independent Component Analysis (ICA). ICA is a technique in the signal processing; however, it is difficult to apply the ITA to increasing number of document data. Because ITA must use the all document data so temporal and spatial cost is very high. Therefore, we present Incremental ITA which extracts the independent topics from increasing number of document data. Incremental ITA is a method of updating the independent topics when the document data is added after extracted the independent topics from a just previous the data. In addition, Incremental ITA updates the independent topics when the document data is added. And we show the result applied Incremental ITA to benchmark datasets.

**Keywords :** text mining, topic extraction, independent, incremental, independent component analysis

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