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# Data Stream Mining for Ubiquitous Environments

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**Abstract.** Data stream mining is, nowadays, a mature topic in data mining. Nevertheless, most of the works focus on centralized approaches to learn from sequences of instances generated from environments with unknown dynamics, that can be read only once or a small number of times, using limited computing and storage capabilities. The phenomenal growth of mobile and embedded devices coupled with their ever-increasing computational and communications capacity presents an exciting new opportunity for real-time, distributed intelligent data analysis in ubiquitous environments. In these contexts centralized approaches have limitations due to communication constraints, power consumption (e.g. in sensor networks), and privacy concerns. Distributed online algorithms are highly needed to address the above concerns. The focus of this talk is on distributed stream mining algorithms that are highly scalable, computationally efficient and resource-aware. These features enable the continued operation of data stream mining algorithms in highly dynamic mobile and ubiquitous environments.

## Keywords

DATA MINING, DATA STREAMS, DISTRIBUTED ALGORITHMS