Practical Privacy-Preserving Based K-means clustering over Large-scale Dataset

ABSTRACT:

Clustering techniques have been widely adopted in many real world data analysis applications, such as customer behavior analysis, medical data Analysis, digital forensics, etc. With the explosion of data in today's big data era, a major trend to handle a clustering over large-scale datasets is outsourcing it to HDFS platforms. This is because cloud computing offers not only reliable services with performance guarantees, but also savings on inhouse IT infrastructures. However, as datasets used for clustering may contain sensitive information, e.g., patient health information, commercial data, and behavioral data, etc, directly outsourcing them to any Distributed servers inevitably raise privacy concerns. In this paper, we propose a practical privacy-preserving K-means clustering scheme that can be efficiently outsourced to HDFS servers.