

# **A HYBRID MODEL FOR PREDICTION OF RISING TEMPORAL BIG DATA ON CLOUD**

## **ABSTRACT**

Every day, temporal big data are being generated in huge volumes in a wide range of applications. Advances in information technology and its widespread growth in several areas of business, engineering, medical and scientific studies are resulting in information and rising temporal big data explosion. Temporal big data can be used to understand the past behavior of the series and to forecast the future behavior on the basis of past behavior. Temporal big data models work under the assumption that whatever will happen in future is a function of what has happened in the past. Temporal big data analysis is the process of building a model using statistical techniques to represent characteristics of temporal big data.

The nature of temporal big data itself is recognized as the main challenge which is hampering the progress of obtaining significant prediction from analytics. Temporal big data is the day to day challenge that organizations comfort with huge and fast-growing sources of data or information that also present a complex range of analysis and use problems. Digital data production with applications in human activity is at exponential growth. Temporal big data is the new generation which differs from the commonly used software tools to manage process and capture the temporal big data within the time limit. Human beings are not able to identify data models and designs hidden within them. Therefore, data must be analysed by systems using data mining techniques.

Processing and forecasting huge temporal big data is a challenging task. Prediction of temporal big data is an important application in many domains, knowledge discovery, feature extraction and decision making from such rapidly growing temporal big data is a challenging in terms of data organization, access and timely processing, which is an emerging trend. However, the management and analysis of these data still pose a huge challenge to end users, who have little programming experience and little knowledge of temporal big data analysis models. Although, many tools exist for temporal big data analysis, a review of these tools shows that are usually designed for data experts and analysts. Processing these series requires an efficient and scalable parallel computing model to obtain the prediction of feature extraction quickly.

The work developed throughout this dissertation presents a new hybrid model for analysis and employs improved k-means algorithm, Hidden Markov Model with some hybrid approaches, Baum Welch algorithm and forecast any rising temporal big data. To overcome this problem of extracting information, parallel programming models can be used. Parallel programming model achieves this. Thus, the accuracy and the time required for prediction in the proposed method is comparatively efficient than the existing models. Cloud systems are used to handle parallel mining as they offer scalable storage and act as software platforms for the development and running of data analysis environment. Cloud system is also deal with in this research. The cloud computing environment is specified for the running of big data mining processes.