

Probabilistic Modeling and Forecasting of Time-Aware Dynamic QoS Attributes for Cloud Services

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ABSTRACT

Web services are increasing day by day in the engineering of modern software systems. These are becoming a major technique for building loosely coupled distributed systems. As there are many Web Services made available on the internet for similar functionality, selecting the best service for the client requirement, is a difficult task for consumers. So, Web Services Selection (WSS) is a crucial process for Web Services composition. Quality-of-Service (QoS) is usually employed for describing the non-functional characteristics of Web services and employed as an important differentiating point of different Web services. Quality of a service is a measure of how well it is serving the request of the requester. The important issue recognized in the web service selection is the inability to successfully identify a web service that can meet the user's specific nonfunctional requirements in real-time. To forecast time-aware dynamic QoS values for Web services, the majority of previous works adopted the genetic approach and machine-learning approach. We verify that machine-learning approaches are generally superior to the widely used statistical time-series methods since these technologies typically improve efficiency and accuracy and their automated nature saves time and money. So, we proposed and implemented a machine-learning approach for modeling and forecasting of time-aware dynamic QoS attributes. This paper deals with the classification of Web services with the help of using QoS constraints values. For the classification of web services, we are using Machine learning approach, Decision tree.

