

# Abstract

*Web Services are beginning to play a major role in future Web architectures and software applications. One of the most important research directions in the area of Web Services is the development of techniques for automatically discovering collections of services that satisfy a set of constraints. Efficiently discovering collections of Web services on the web is a challenging issue in Service-Oriented Computing.*

*With an ever-increasing number of Web Services being available, finding desired Web Service is crucial for service users. Currently, UDDI is a standard for publishing and discovery of Web Services, and UDDI registries also provide keyword searches for Web Services. However, the search functionality is very simple and fails to account for relationships between Web services. Also, current keyword search and most existing approaches are inefficient and time-consuming in two main aspects: poor scalability and lack of semantics. Firstly, users are overwhelmed by the huge number of irrelevant services returned. Secondly, the intentions of users and the semantics in Web Services are ignored.*

*In this project work, we present a new method for Web Service Discovery that utilizes the Language Modeling Concept of Information Retrieval System to capture semantic concepts hidden behind words in the query and advertisements of services.*

*Experiments have been conducted on real world data set to validate the effectiveness of the proposed method. The initial results establish that the proposed method is capable of eliminating irrelevant services with respect to a user query.*

**Keywords** *Web Service, Web Service Discovery, Information Retrieval, Language Models, Smoothing.*