

BioScholar: Biomedical Question Answering System

Rivindu Perera 

Informatics Institute of Technology
Email: rivindu.perera@hotmail.com

Udayangi Perera

Informatics Institute of Technology
Email: udayangi@iit.ac.lk

Tremendous amounts of biomedical information on the web and in publicly opened repositories have raised a new kind of issue among general public. It is to access this rich collection of information and extract knowledge that they want for a simple natural query. Empirical research carried out to address this arduous issue guided us to develop BioScholar, a question answering system which is specialized in biomedical text mining. Simply, BioScholar can be invoked from natural questions such as "what is hypothermia?", "what is headache and how to prevent it?" or complex questions such as "what are the term variations of 9-CIS-retinoic acid?". BioScholar can generate answers according to the complexity level of question from simplest answer to the most complex answer which will associate deep and structured semantic knowledge about the problem being investigated. BioScholar works in seven different units which are focused on the responsibility assigned and maintain parallel communication strategy with related units. Term extraction and query expansion unit which is termed to be the top most unit extracts terms and key words from the questions formed by users. It is also important to notice that with probabilistic approaches, novel semantic relationship processing approaches are also mingled to extract biomedical terms from user formed questions. These extracted terms are then transformed to text search unit which involves in the text extraction from the web through a web search or from local corpora using tf-idf scores.