

Chapter 9

Need of Intelligent Search in Dynamic Social Network

Shailendra Kumar Sonkar

National Institute of Technical Teacher's Training and Research, Chandigarh, India

Vishal Bhatnagar

Ambedkar Institute of Advanced Communication Technologies and Research, India

Rama Krishna Challa

National Institute of Technical Teacher's Training and Research, Chandigarh, India

ABSTRACT

The user of dynamic social network does not require irrelevant and vast amount of information during a search. A need of an intelligent search is required to get the reduced, filtered and relevant information that is achieved using an intelligent information retrieval and web mining. In this paper, identification and description of facts related to needs of an intelligent search in dynamic social network has been done by the authors after the deep and thorough study conducted on several journal and conference papers that are scattered on different electronic databases globally. The usage of intelligent agent for effective information retrieval from the social network site is a very emerging area and it will help the users to find the relevant and concerned information quickly and efficiently. The findings of the authors will help researchers and scholars who are already working in this area to get the relevant information in the direction of future research.

1. INTRODUCTION

An intelligent search in dynamic social network can be achieved using intelligent information retrieval and web mining. An intelligent information retrieval system based on multi-agent helps in finding the filtered and reduced amount of information from World Wide Web that is highly probable relevant to the user (Xiao et al., 2007). An intelligent information retrieval is performed by an intelligent agent (a computer program) that acts upon an instruction by the human and provides the relevant and useful information to the user without any other interaction (Maes, 1994). A perfect intelligent information

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retrieval system provides the search result interest to the user, describable information according to the user interest, provide relational data automatically, integrate particular retrieval using central browse, returns query results speedily, and provides highly efficient and precision information to the user (Li et al., 2004).

Web mining is the branch of data mining aimed to analyze the structure of World Wide Web that is used to extract the useful information (Revelle et al., 2010). Web mining performs three different activities. These are Web structure mining, Web content mining and Web usage mining. Web structure mining is the process of information extraction from the links between web pages. Web content mining is the process of useful information discover from the web sites and the pages they are composed of. Web usage mining is the process of discovery of useful user access pattern from one or more web servers (Ballocca et al., 2003).

An identification of different techniques, algorithms and framework for intelligent information retrieval based on ontology, fuzzy logic, agent and semantic-web from the World Wide Web and digital library have been done by the different researchers and scholars (Nihei et al., 1998, He and Feng, 2005, Ying et al., 2007, Liu et al., 2008, Wiese et al., 2012 and Wu et al., 2013). An intelligent search in dynamic social network that is achieved using intelligent information retrieval and web mining is challenging due to the constantly changing and big amount of data available on dynamic social network. In this paper, the authors had tried to identify and represents some facts related to need of intelligent search in dynamic social network.

The organization of the paper as follows: Section 2 outlines the related research and motivation. Section 3 presents the road map to provide the research methodology. Section 4 discusses the foundation of web mining. Section 5 outlines the foundation of intelligent information retrieval. Section 6 discusses the need of intelligent search in dynamic social network. Section 7 presents the advantages and disadvantages of intelligent information retrieval. Section 8 outlines the research implication and discussion of our study. Section 9 discusses the limitations of the study and Section 10 concludes by presenting the some direction to future research related to intelligent search using intelligent information retrieval and web mining.

2. RELATED RESEARCH AND MOTIVATION

A deep study was done on various research papers and journal articles related to an intelligent information retrieval (IIR) system by the authors. The different view given by different scholars and researchers on different approaches to an intelligent information retrieval (IIR) are:

- Li and Huang (2005) proposed an intelligent platform for information retrieval that provides the domain specific IR, concept-based retrieval to reduce irrelevant pages and exact answer by questioning answering. Belkin (2006) showed the concepts of an intelligent information retrieval based on an idea of an agency and constituents of an information retrieval system.
- Jain (2005) presented a novel approach to an intelligent information retrieval model based on combination of multi-agent and conceptual graph. Tu and Hsiang (1998) identified the relevant features of an agent and proposed architecture of an intelligent information retrieval agent. They described the notion of agent community, decomposed an agent into subagents and discussed the issue of category information. Xie et al. (2003) proposed an algorithm and model according

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