Optimization Approach for Question Routing in Community Question Answering Services

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ABSTRACT

Community Question Answering (CQA) has increasingly become an important service for people asking questions and providing answers online. Recently, with accumulation of users and contents, much concern has arisen over the efficiency and answer quality and also over technical answering but not generalized. To address this problem, question routing has been proposed which aims at routing new technical questions to suitable answerers, who have both high possibility and high ability to answer the questions. The system will formulate question routing as a multi-objective ranking problem, and present a multi-objective learning-to-rank approach for question routing (MLQR), which can optimize the answering possibility and answer quality of routed users. In MLQR, realizing that questions are usually attached with tags, the system will first propose a tagword topic model (TTM) to derive topical representations of questions. It can be captured at both platform level and thread level. System extend a state-of-the-art learning-to-rank algorithm for training a multi-objective ranking model. Real-world datasets are used. The proposed system will allow one-to-one communication through E-mails. New Pop-up-blocks related to recent searches of users. User interactive display. And finally profile generation of user (eg:- How many questions are answered by the same user on different sites).

Keyword :- Information networks, Performance evaluation (efficiency and effectiveness), Optimization, Question-answering (fact retrieval) systems, User profiles and alert services

1. INTRODUCTION

Develop a system which aims at routing new questions to suitable answerers, who have both high possibility and high ability to answer the questions. We will also provide an profile update option an compiler facility. Community Question Answering (CQA) service provides a platform for increasing number of users to ask and answer for their own needs but unanswered questions still exist within a fixed period. To address this, the paper aims to route questions to the right answerers who have a top rank in accordance of their previous answering performance. Accumulation of users and contents, much concern has arisen over the efficiency and answer quality of CQA services.. . The proposed system will allow one-to-one communication through E-mails. New Pop-up-blocks related to recent searches of users. User interactive display. And finally profile generation of user (eg:- How many questions are answered by the same user on different sites).

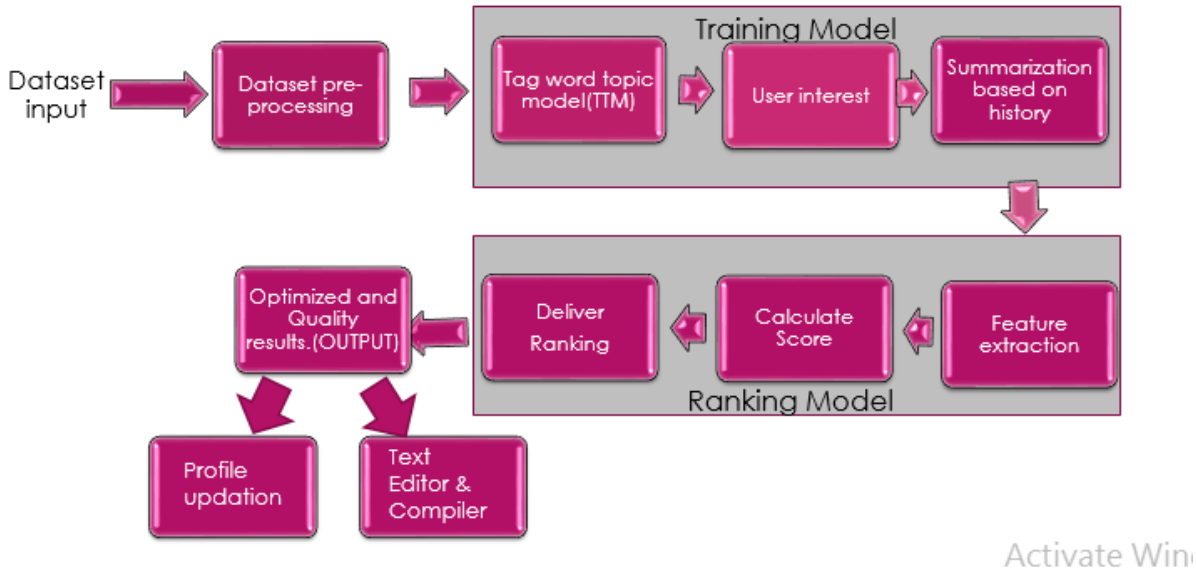
2.LITRATURE SURVEY

Community Question Answering (CQA) has increasingly become an important service for people asking questions and providing answers online, which enables people to help each other by sharing knowledge. Recently, with accumulation of users and contents, much concern has arisen over the efficiency and answer quality of CQA services. To address this problem, question routing has been proposed which aims at routing new questions to suitable answerers, who have both high possibility and high ability to answer the questions. In this paper, we formulate question routing as a multi-objective ranking problem, and present a multi-objective learning-to-rank approach for question routing (MLQR), which can simultaneously optimize the answering possibility and answer quality of routed users. In MLQR, realizing that questions are relatively short and usually attached with tags, we first propose a tagword topic model (TTM) to derive topical representations of questions. Based on TTM, we then develop features for each question-user pair, which are captured at both platform level and thread level. In particular, the platform-level features summarize the information of a user from his/her history posts in the CQA platform, while the thread-level features model the pairwise competitions of a user with others.

System handle this problem from two aspects. First, we additionally use QQ in measuring AQ, and analyse the correlation between a comprehensive list of features (including answer-related features) and QQ. Second, we propose the first method that estimates the probability for a given question to obtain high AQ. Our analysis on the Yahoo! Answers trace confirmed that the list of our identified features exert inuence on AQ, which determines QQ. For the correlation analysis, the previous classification algorithms cannot consider the mutual interactions between multiple (> 2) classes of features. We then propose a novel Coupled Semi-Supervised Mutual Reinforcement-based Label Propagation (CSMRLP) algorithm for this purpose.

3.PROPOSED SYSTEM

We proposed system in which routing new questions to suitable answerers, who have both high possibility and high ability to answer the questions. In this paper, we formulate question routing as a multi-objective ranking problem, and present a multi-objective learning-to-rank approach for question routing (MLQR), which can simultaneously optimize the answering possibility and answer quality of routed users. In MLQR, realizing that questions are relatively short and usually attached with tags, we first propose a tagword topic model (TTM) to derive topical representations of questions. Based on TTM, we then develop features for each question-user pair, which are captured at both platform level and thread level.



4.SYSTEM ARCHITECTURE DIAGRAM

5. CONCLUSIONS

The question routing problem as a classification task is considered, and derive a variety of local features and global features which capture different aspects of the question, the user and the relationship between them. The contributions from different sources are analyzed. Thorough experimental analysis indicates high feasibility of our approach. This system propose a tagword topic model (TTM) which uses corpus-level aggregation of tag-word combinations to relieve the data sparsity problem of questions. Based on TTM, two sets of features are developed which capture a users interest, activeness and expertise for a question at both platform level and thread level. The platform level features summarize a users information from his/her history posts in the CQA platform, while the thread-level features learn a users performance by measuring his/her competition with others in his/her answered threads. These features are further used in an extended learning-to-rank algorithm, which can optimize the objectives of question routing simultaneously.

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