i <u>Title:</u>
Ting Ye , Bing Xie , Yanzhen Zou , Xiuzhao Chen, Interrogative-guided re-ranking for question-oriented software text retrieval, Proceedings of the 29th ACM/IEEE international conference on Automated software engineering, September 15-19, 2014, Vasteras, Sweden

ii <u>Keywords</u>
ii1 Interrogative-Guided: Research that is lead by questions and the way interrogatives are used to by developers.

ii2 Ranking: In this paper, ranking refers to the rank given to the most relevant documents for a given question.

ii3 Software Text Retrieval: The software text retrieval engine ranks the relevant documents for a given question

ii4 Stack Overflow: It is the largest online community for programmers to learn, share their knowledge, and advance their careers.

iii <u>Brief Summaries</u>
iii1 Motivation:
Question-oriented text retrieval is often used to help developers search for software artifacts. In this paper, they propose an interrogative guided re-ranking approach for question-oriented software text retrieval. Interrogatives based since different interrogatives usually indicate users' different search focuses and It indicates that we have an expectation of what the answer be like when we ask a question. As a result, their answers are different not only in words but also in codes and links. Thus, the build a software document classifier, which can automatically distinguish whether a document is suitable to answer a question and they re-rank the search results so as to improve the precision of software text retrieval.

iii2 Data:
The Research questions they consider:
RQ1: What's the behaviour of the classifiers and what affects the behaviour of the classifiers?
RQ2: Does our re-ranking approach really work? Does our approach performs better than other re-ranking approach?

For the classifier evaluation, they use 2,460 answers with positive votes. For each type A, the positive samples are those A-labeled positive-voted answers.

For the re-ranking evaluation, they use 1,826 questions with positive votes. And collect all the 7,872 "lucene"-tagged answers as the repository.

iii3 Future Work:
In this paper, they present an interrogative-guided re-ranking approach for question-oriented software text retrieval. They apply the classifiers to their document repository and adopt a re-scoring approach, which combines the classification score and the text retrieval score. But the performance of our classifier still needs further improvement. In their method documents are classified automatically by its corresponding question types but actually a document may answer several types of questions and may be not limited to the type of its original question. In the future, they might try some fuzzy learning model in our classifier so as to gain higher classification precision
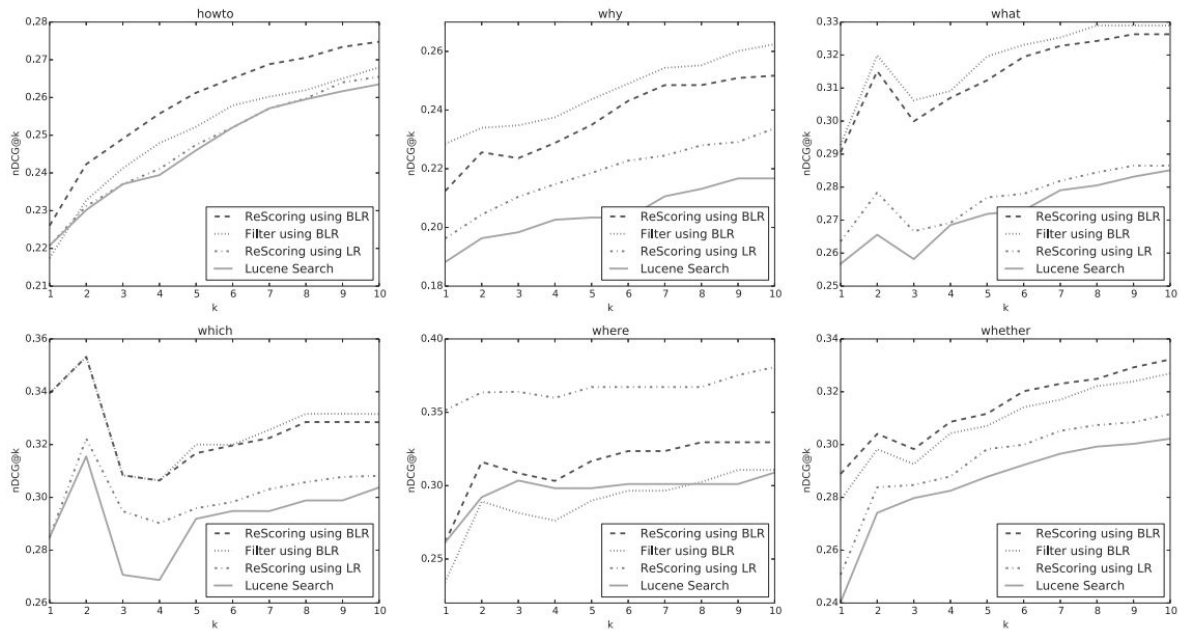
iii4 Informative visualizations:
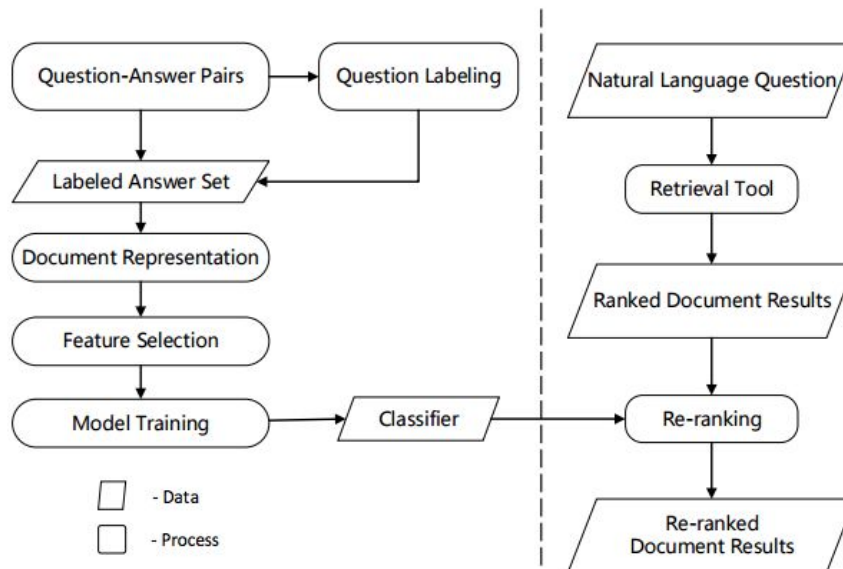
Figure 1: Approach Overview

The above figure explains the how their approach works.

Overall Improvement
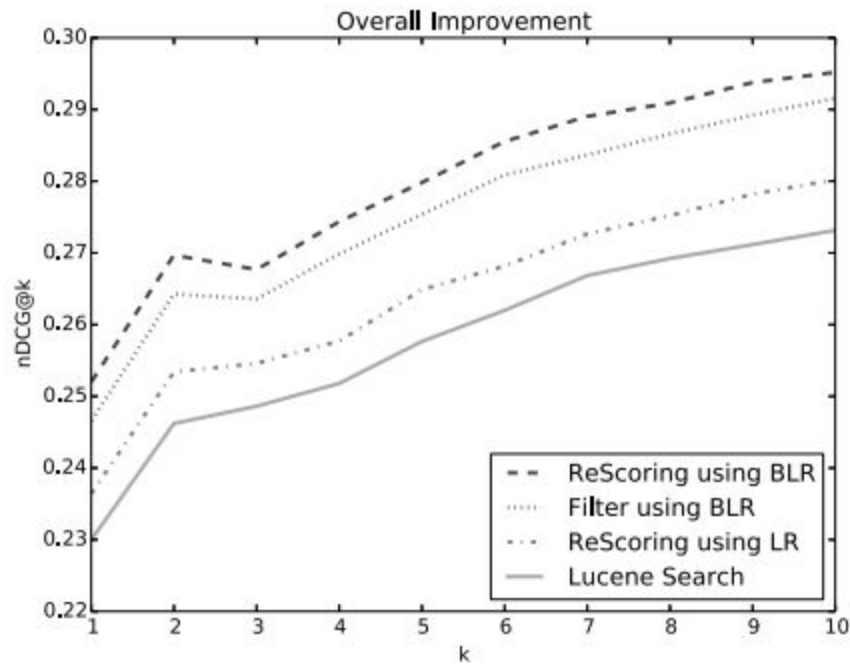
The above figure explains how their approach improves performance of search results

The above approach explains how the different interrogatives and how rescoring helps.

iv **Scope Of Improvement**
iv1: Performance of classifiers can be improved a lot.

iv2: The authors didn't explain how the chose the interrogatives and divided them into classifiers.

iv3: Their system obtains the best performance on the what and why type, but it does not do justice to other types. Its worst performance is on the where, even worse than the Lucene Search.