ISSN(Online): 2320-9801
ISSN (Print): 2320-9798

International Journal of Innovative Research in Computer and Communication Engineering

(An ISO 3297: 2007 Certified Organization) Vol.2, Special Issue 1, March 2014

Proceedings of International Conference On Global Innovations In Computing Technology (ICGICT'14)

Organized by

Department Of CSE, JayaShriram Group Of Institutions, Tirupur, Tamilnadu, India on 6th & 7th March 2014

Beyond Text QA Multimedia diverse relevance ranking based Answer Generation by Extracting Web

R.Manju[1]

M.S-software engineering, Department of CSC, Sri Krishna college of engineeering, Coimbatore, Tamil Nadu, India[I]

ABSTRACT: Community QA (cQA) provides only textual answers, which are not informative enough for many questions. To overcome these problems previous studies proposed three steps: First, information seekers are able to post their specific questions on any topic and obtain answers provided by other participants. Second, in comparison with automated QA systems. Third, over times, a tremendous number of QA pairs have been accumulated in their repositories. But the major problem is the lack of diversity of the generated media data .It estimates the relevance scores of images with respect to the query term based on both the visual information of images and the semantic information of associated tags. Then, we estimate the semantic similarities of social images based on their tags. Based on the relevance scores and the similarities, the ranking list is generated by a greedy ordering algorithm which optimizes average diverse precision, a novel measure that is extended from the conventional average precision

Keywords: community question and answer, relevance score, novel schema

I. INTRODUCTION OF PROJECT

Along with the proliferation and improvement of underlying communication technologies, community QA (cQA) has emerged as an extremely popular alternative to acquire information online, owning to the following facts. First, information seekers are able to post their specific questions on any topic and obtain answers provided by other participants. By leveraging community efforts, they are able to get better answers than simply using search engines. Second, in comparison with automated QA systems, cQA usually receives answers with better quality as they are generated based on human intelligence. Third, over times, a tremendous number of QA pairs have been accumulated in their repositories, and it facilitates the preservation and search of answered questions.

Existing cQA forums mostly support only textual answers. Unfortunately, textual answers may not provide sufficient natural and easy-to grasp information. For the questions "*What are the steps to make a weather vane*" and "*What does $1 Trillion Look Like*", the answers are described by long sentences. Clearly, it will be much better if there are some accompanying videos and images that visually demonstrate the process or the object. Therefore, the textual answers in cQA can be significantly enhanced by adding multimedia contents, and it will provide answer seekers more comprehensive information and better experience.

In fact, users usually post URLs that link to supplementary images or videos in their textual answers. Best answers on Y!A both contain video URLs. It further confirms that multimedia contents are useful in answering several questions.

ISSN(Online): 2320-9801
ISSN (Print): 2320-9798

International Journal of Innovative Research in Computer and Communication Engineering

(An ISO 3297: 2007 Certified Organization) Vol.2, Special Issue 1, March 2014

Proceedings of International Conference On Global Innovations In Computing Technology (ICGICT'14)

Organized by

Department Of CSE, JayaShriram Group Of Institutions, Tirupur, Tamilnadu, India on 6th & 7th March 2014

But existing cQA forums do not provide adequate support in using media information. novel scheme which can enrich community-contributed textual answers in cQA with appropriate media data. It contains three main components:
(1) Answer medium selection. Given a QA pair, it predicts whether the textual answer should be enriched with media information, and which kind of media data should be added. Specifically, we will categorize it into one of the four classes: text, text+videos, text+images, and text+images+videos. It means that the scheme will automatically collect images, videos, or the combination of images and videos to enrich the original textual answers.
(2) Query generation for multimedia search. In order to collect multimedia data, we need to generate informative queries. Given a QA pair, this component extracts three queries from the question, the answer, and the QA pair, respectively. The most informative query will be selected by a three-class classification model.
(3) Multimedia data selection and presentation. Based on the generated queries, we vertically collect image and video data with multimedia search engines. We then perform re-ranking and duplicate removal to obtain a set of accurate and representative images or videos to enrich the textual answers.
Our proposed approach in this work does not aim to directly answer the questions, and instead, we enrich the community-contributed answers with multimedia contents. Our strategy splits the large gap between question and multimedia answer into two smaller gaps, i.e., the gap between question and textual answer and the gap between textual answer and multimedia answer. In our scheme, the first gap is bridged by the crowd-sourcing intelligence of community members, and thus we can focus on solving the second gap. Therefore, our scheme can also be viewed as an approach that accomplishes the MMQA problem by jointly exploring human and computer. Fig. 3 demonstrates the difference between the conventional MMQA approaches and an MMQA framework based on our scheme. It is worth noting that, although the proposed approach is automated, we can also further involve human interactions. For example, our approach can provide a set of candidate images and videos based on textual answers, and answerers can manually choose several candidates for final presentation.

II. PROBLEM STATEMENT

Fully automated QA still faces challenges that are not easy to tackle, such as the deep understanding of complex questions and the sophisticated syntactic, semantic and contextual processing to generate answers. Existing cQA forums mostly support only textual answers unfortunately, textual answers may not provide sufficient natural and easy-to grasp information.

III. OBJECTIVE

Approach automatically determines which type of media information should be added for a textual answer. It then automatically collects data from the web to enrich the answer. By processing a large set of QA pairs and adding them to a pool, our approach can enable a novel multimedia question answering (MMQA) approach as users can find multimedia answers by matching their questions with those in the pool.

IV. SYSTEM ANALYSIS

EXISTING SYSTEM

Existing system is able to enrich textual answers in cQA with appropriate media data. Our scheme consists of three components: answer medium selection, query generation for multimedia search, and multimedia data selection and presentation. This approach automatically determines which type of media information should be added for a textual answer. It then automatically collects data from the web to enrich the answer. By processing a large set of QA pairs and

ISSN(Online): 2320-9801
ISSN (Print): 2320-9798

International Journal of Innovative Research in Computer and Communication Engineering

(An ISO 3297: 2007 Certified Organization) Vol.2, Special Issue 1, March 2014

Proceedings of International Conference On Global Innovations In Computing Technology (ICGICT'14)

Organized by

Department Of CSE, JayaShriram Group Of Institutions, Tirupur, Tamilnadu, India on 6th & 7th March 2014

adding them to a pool, our approach can enable a novel multimedia question answering (MMQA) approach as users can find multimedia answers by matching their questions with those in the pool.

DISADVANTAGES

- Existing system lack of diversity of the generated media data.
- Remove duplicates in many cases more diverse results becomes occurs.
- Diverse ranking is also important to enriched media data in existing system doesn't consider the diverse ranking.

PROPOSED SYSTEM

Diverse relevance ranking (DRR) scheme for social image search. It is able to rank the images based on their relevance levels with respect to query tag while simultaneously considering the diversity of the ranking list. First, we estimate the relevance score of each image with respect to the query term as well as the semantic similarity of each image pair. The relevance estimation incorporates both the visual information of images and the semantic information of their associated tags into an optimization framework, and the semantic similarity is mined based on the associated tags of images. Estimated relevance scores and similarities, we then implement the DRR algorithm, which can be viewed as a greedy ordering algorithm that optimizes average diverse result.

ADVANTAGES

- Proposed method considers the diverse ranking is also important to enriched media data.
- It finds the relevant Diverse Search of Social Images for multimedia data.

V. CONCLUSION AND FUTURE WORK

Existing system uses a novel scheme to answer questions using media data by leveraging textual answers in cQA. For a given QA pair, our scheme first predicts which type of medium is appropriate for enriching the original textual answer. Following that, it automatically generates a query based on the QA knowledge and then performs multimedia search with the query. Proposed diverse relevance ranking scheme for social image search, which is able to simultaneously take relevance and diversity into account. It leverages both visual information of images and the semantic information of tags. Finally, query-adaptive reranking and duplicate removal are performed to obtain a set of images and videos for presentation along with the original textual answer.

In our future work, will further improve the scheme, such as developing better query generation method and investigating the relevant segments from a video.

REFERENCES

[1] S. A. Quarteroni and S. Manandhar, "Designing an interactive open domain question answering system," J. Natural Lang. Eng., vol. 15, no. 1, pp. 73–95, 2008.
[2] D. Mollá and J. L. Vicedo, "Question answering in restricted domains: An overview," Computat. Linguist., vol. 13, no. 1, pp. 41–61, 2007.
[3] H. Cui, M.-Y. Kan, and T.-S. Chua, "Soft pattern matching models for definitional question answering," ACM Trans. Inf. Syst., vol. 25, no. 2, pp. 30–30, 2007.
[4] R. C. Wang, N. Schlaefer, W. W. Cohen, and E. Nyberg, "Automatic set expansion for list question answering," in Proc. Int. Conf. Empirical Methods in Natural Language Processing, 2008.
[5] L. A. Adamic, J. Zhang, E. Bakshy, andM. S. Ackerman, "Knowledge sharing and Yahoo answers: Everyone knows something," in Proc. Int. World Wide Web Conf., 2008.
[6] G. Zoltan, K. Georgia, P. Jan, and G.-M. Hector, Questioning Yahoo! Answers, Stanford InfoLab, 2007, Tech. Rep.

ISSN(Online): 2320-9801
ISSN (Print): 2320-9798

International Journal of Innovative Research in Computer and Communication Engineering

(An ISO 3297: 2007 Certified Organization) Vol.2, Special Issue 1, March 2014

Proceedings of International Conference On Global Innovations In Computing Technology (ICGICT'14)

Organized by

Department Of CSE, JayaShriram Group Of Institutions, Tirupur, Tamilnadu, India on 6th & 7th March 2014

[7] H. Yang, T.-S. Chua, S. Wang, and C.-K. Koh, "Structured use of external knowledge for event-based open domain question answering," in Proc. ACM Int. SIGIR Conf., 2003.
[8] T. Yeh, J. J. Lee, and T. Darrell, "Photo-based question answering," in Proc. ACM Int. Conf. Multimedia, 2008.
[9] G. Li, R. Hong, Y.-T. Zheng, S. Yan, and T.-S. Chua, "Learning cooking techniques from youtube," in Proc. Int. Conf. Advances in Multimedia Modeling, 2010.
[10] L. Nie, M. Wang, Z. Zha, G. Li, and T.-S. Chua, "Multimedia answering: Enriching text QA with media information," in Proc. ACM Int. SIGIR Conf., 2011.
[11] Trec: The Text Retrieval Conf. [Online].
[12] J. Cao, F. Jay, and J. Nunamaker, "Question answering on lecture videos: A multifaceted approach," in Proc. Int. Joint Conf. Digital Libraries, 2004.
[13] Y.-C.Wu, C.-H. Chang, and Y.-S. Lee, "Cross-Language Video Question/ Answering System," in Proc. IEEE Int. Symp. Multimedia Software Engineering, 2004, pp. 294–301.
[14] Y.-S. Lee, Y.-C. Wu, and J.-C. Yang, "Bvideoqa: Online English/Chinese bilingual video question answering,"Amer. Soc. Inf. Sci. Technol., vol. 60, no. 3, pp. 509–525, 2009.
[15] Y.-C. Wu and J.-C. Yang, "A robust passage retrieval algorithm for video question answering," IEEE Trans. Circuits Syst. Video Technol., vol. 18, no. 10, pp. 1411–1421, 2008.
[16] G. Li, H. Li, Z. Ming, R. Hong, S. Tang, and T.-S. Chua, "Question answering over community contributed web video," IEEEMultimedia, vol. 17, no. 4, pp. 46–57, 2010.
[17] G. Kacmarcik, Multi-Modal Question-Answering: Questions Without Keyboards, Asia Federation of Natural Language Processing, 2005.
[18] T.-S. Chua, R.Hong, G. Li, and J. Tang, "From text question-answering tomultimedia QA on web-scalemedia resources," in Proc. ACMWorkshop Large-Scale Multimedia Retrieval and Mining, 2009.
[19] H. Tamura and N. Yokoya, "Image database systems: A survey," Pattern Recognit., pp. 29–43, 1984.
[20] V. Kobla, D. Doermann, and K.-I. D. Lin, "Archiving, indexing, and retrieval of video in the compressed domain," in Proc. SPIE Conf., 1996.
[21] A. Ghias, J. Logan, D. Chamberlin, and B. C. Smith, "Query by humming: Musical information retrieval in an audio database," in Proc. ACM Int. Conf. Multimedia, 1995.
[22] M. Wang and X. S. Hua, "Active learning in multimedia annotation and retrieval: A survey," ACM Trans. Intell. Syst. Technol., vol. 2, no. 2, pp. 10–31, 2011.
[23] Y. Gao, M. Wang, Z. J. Zha, Q. Tian, Q. Dai, and N. Zhang, "Less is more: Efficient 3d object retrieval with query view selection," IEEE Trans. Multimedia, vol. 13, no. 5, pp. 1007–1018, 2011.