2013 MSR-Bing Workshop on

Image Retrieval Challenge

Oct 7, 2013 - Bellevue, WA, USA

Welcome to Bellevue! Welcome to Microsoft!

Workshop Program

08:30 – 09:00 Registration/Onsite Breakfast

09:00 – 09:10 Opening

09:10 – 09:25 Overview of 2013 MSR-Bing IRC

  Ming Ye, Bing, Microsoft

09:25 – 10:05 Team Presentations (1)

  Search-Based Relevance Association with Auxiliary Contextual Cues
  Chun-Che Wu, Kuan-Yu Chu, Yin-Hsi Kuo, Yan-Ying Chen, Wen-Yu Lee, Winston H. Hsu
  National Taiwan University, Taiwan

  France Telecom Orange Labs (Beijing) a MSR-Bing Challenge On
  Image Retrieval 2013
  Lezi Wang‡, Shusheng Cen‡, Hongliang Bai‡, Chong Huang‡, Nan Zhao‡, Bo Liu‡,
  YanChao Feng‡, Yuan Dong‡
  ‡ France Telecom Orange Labs, Beijing, China
  † Beijing University of Posts and Telecommunications, Beijing, China

10:05 – 10:20 Coffee Break

10:20 – 11:20 Team Presentations (2)

11:20 – 11:30 Award Presentation

  Harry Shum, Corporate Vice President, Microsoft

11:30 – 12:15 Discussion

  Facilitator: Xian-Sheng Hua, Microsoft Research

Important Message

- Wireless network please use MSFTOPEN (free)
- Please either use the workshop facilitator’s laptop for your presentation, or use your own but please log in Lync Web App before your presentation and share your presentation or desktop.
Abstracts of Team Presentations

Search-Based Relevance Association with Auxiliary Contextual Cues
Chun-Che Wu, Kuan-Yu Chu, Yin-Hsi Kuo, Yan-Ying Chen, Wen-Yu Lee, Winston H. Hu
National Taiwan University, Taiwan

In this work, we target at solving the Bing challenge provided by Microsoft. The task is to design an effective and efficient measurement of query terms in describing the images (image-query pairs) crawled from the web. We observe that the provided image-query pairs (e.g., text-based image retrieval results) are usually related to their surrounding text; however, the relationship between image content seems to be ignored. Hence, we attempt to integrate the visual information via traditional retrieval-based method and similarity propagation model for better ranking results. In addition, we found that plenty of query terms are related to people (e.g., celebrity) and user might have similar queries (click logs) in the search engine. Therefore, in this work, we propose a relevance association by investigating the effectiveness of different auxiliary contextual cues (i.e., face, click logs, visual similarity). Experimental results demonstrate the effectiveness of our methods. Finally, due to the consideration of efficiency, we primarily adopt visual similarities, i.e., Modified PageRank Model (MPM) as our final model to compete for the final prize.

France Telecom Orange Labs (Beijing) a MSR-Bing Challenge On Image Retrieval 2013
Leizi Wang, Shusheng Chen, Hongliang Bai, Chong Huang, Nan Zhao, Bo Liu, Yanchao Feng, Yuan Dong
† France Telecom Orange Labs, Beijing, China
‡ Beijing University of Posts and Telecommunications, Beijing, China

This study approaches addresses of our team ORANGE for MSR-Bing Image Retrieval Challenge to assess the relevance on a pair of query term and image. Our approaches aim to boost the performance of web scale image retrieval, where images in the initial list (indexed by query term) can be re-ranked based on their relevance. One year Bing image retrieval logs are used to develop the relevance assessment system. Several visual features are employed to describe one image. A visual similarity learning algorithm is introduced to train a weighted image similarity.

Towards MSR-Bing Challenge: Ensemble of Diverse Models for Image Retrieval
Quan Fang, Hanqiu Xu, Ruowei Wang, Shengsheng Qian, Ting Wang, Jialao Song, Changsheng Xue
† Institute of Automation, Chinese Academy of Sciences, Beijing, China
‡ China-Singapore Institute of Digital Media, Singapore

This paper describes the solution of our team NLPR_MMC for MSR-Bing Image Retrieval Grand Challenge. This challenge is to develop an image-query scoring system to assess the effectiveness of query terms in describing the images. The provided dataset includes a training set containing more than 23 million clicked image-query pairs crawled from the web, a development set which has been manually labeled. The test set is used in the final evaluation. We employ a diverse set of models to exploit image and query features from different perspectives. We then blending our individual models to boost the performance. Our solution achieves 0.5033 in terms of DCG@25 on the test set.

Report on a baseline approach to the second MSR-Bing Challenge on Image Retrieval
Aleksandr Sayko, Anton Slesarev
Yandex, Moscow, Russia

In the report we present a baseline approach for solving the problem which was set within the second MSR-Bing Challenge on Image Retrieval. Our goal is to present a simple method to calculate image’s relevance to the given search query based on similarity matching with pictures from the click log. The relevance is estimated in two steps. In the first step we fetch images that were clicked for search queries that are similar to the query submitted from the click log. Within the second step we calculate the cumulative similarity of given image to the fetched pictures. Finally the cumulative similarity is returned as the requested image’s relevance. Using the proposed approach we reached the value of 0.486901 of the target metric on the evaluation query set.

USTC-CityU at MSR-Bing IRC: Image Search by Graph-based Label Propagation
Yingwei Pan†, Ting Yao‡, Houqiang Li†, Chong-Wah Ngoc
†University of Science and Technology of China, Heifei, P. R. China
‡City University of Hong Kong, Kowloon, Hong Kong

This paper presents overview of our system designed for MSR-Bing Image Retrieval Challenge (MSR-Bing IRC). The main focus for this task is on the study of a new method named graph-based label propagation (GLP), which employs neighborhood graph search to find the nearest neighbors on an image similarity graph built up with visual representations and further aggregates their clicked queries/click counts to get the relevance score of a new query-image pair. Evaluation results show that our system is able to produce an encouraging performance (DCG@25 = 0.4866) by only using challenge training dataset. In addition, the proposed approach is very efficient, completing the whole test evaluation with the latency of 56,492 seconds.