

Overview of MSR-Bing Image Retrieval Challenge

MSR-Bing Image Retrieval
Challenge Organization Committee

October 7th, 2013

Motivations

- The first web-scale challenge on image retrieval
 - Bring industry and academia together to advance the state of art in this important area
- Real problem, Real data
 - Real web images (vs. curated images of predefined types)
 - Unconstrained real user queries (vs. manually defined categories)
 - Training data from real user clicks (vs. human labeling)
 - Testing on stratified samples of real user queries
- Large-scale
 - 1M images + 11.7M queries for training
 - 1K queries for testing

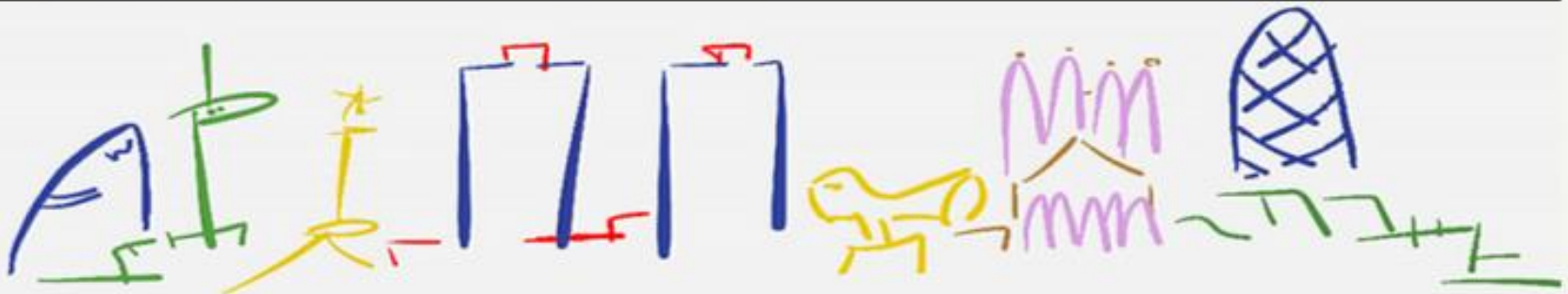
Industry & Academic Tracks

ACM Multimedia 2013

The 21st ACM International Conference on Multimedia

October 21-25, 2013

MM13, Barcelona, Catalunya, Spain



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Microsoft: MSR – Bing Grand Challenge

Grand Challenge on Image Retrieval: Scientific Track

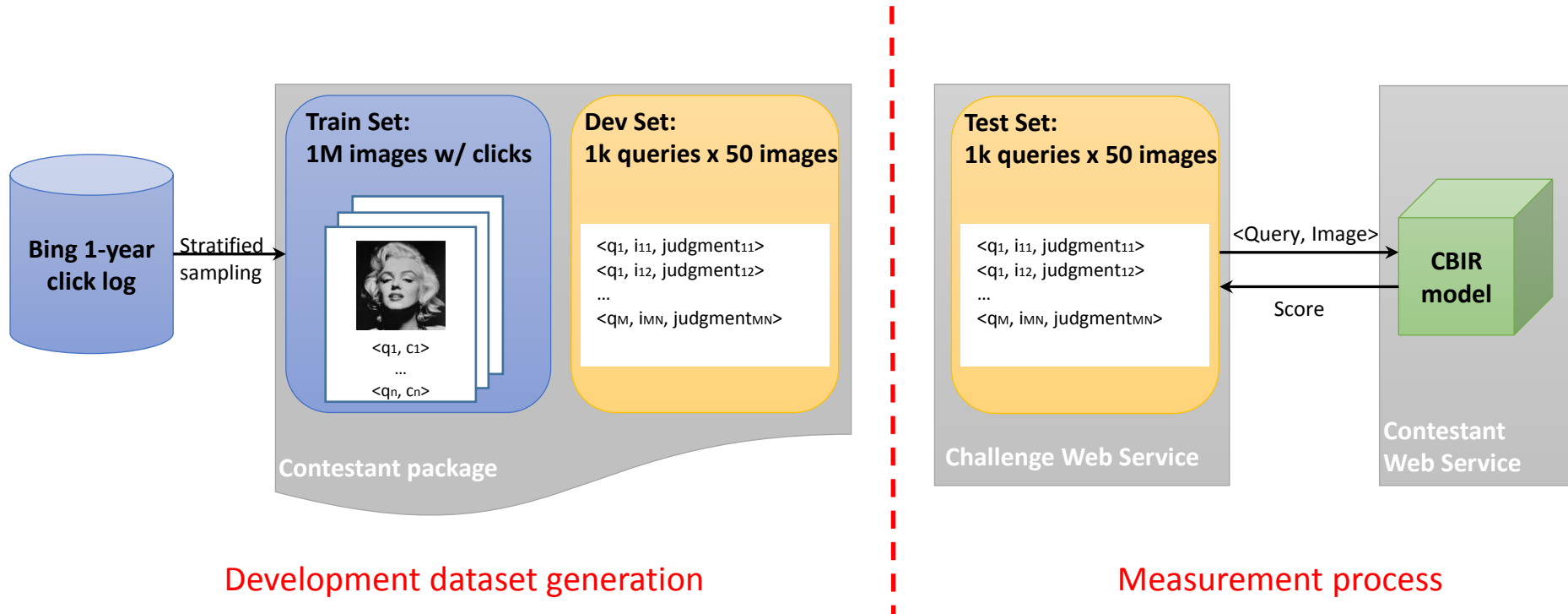
The Second Microsoft Research (MSR)-Bing challenge (the “Challenge”) is organized into a dual track format, one scientific and the other industrial. The two tracks share exactly the same task and timelines but independent submission and ranking processes.

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The Task

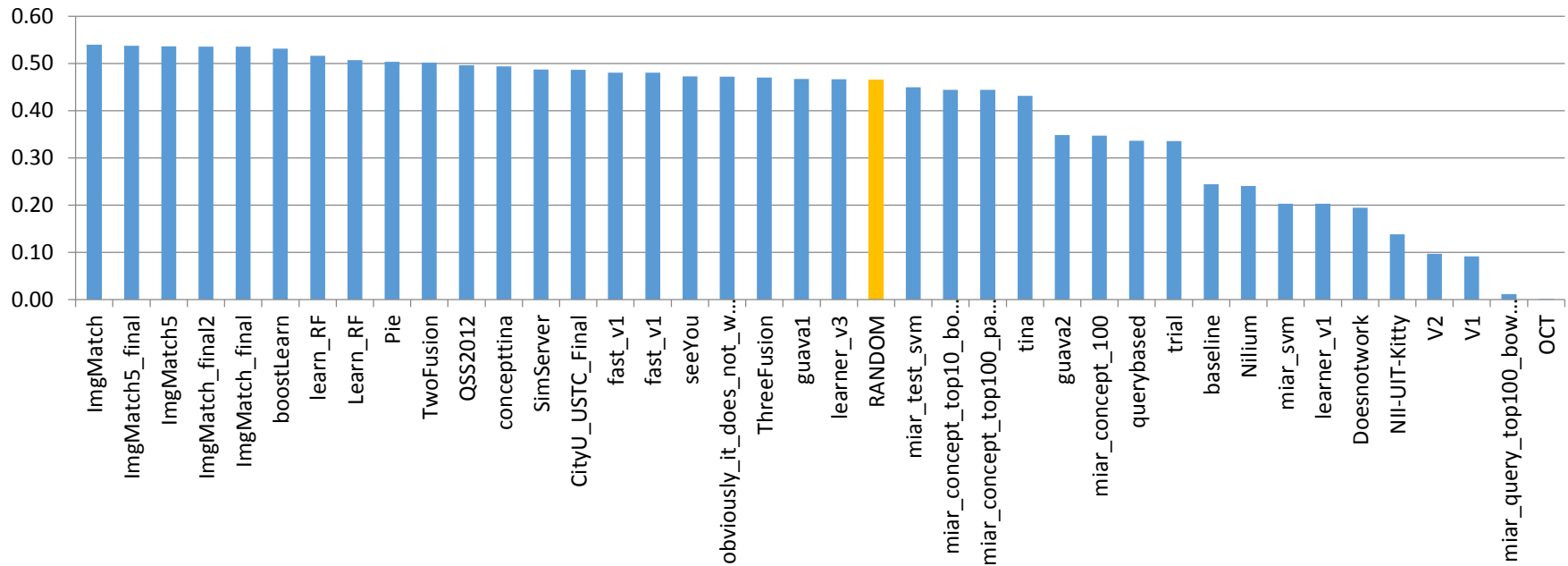
- Design a content-based system to rank images for any given query
- Training: raw user clicks from Bing search log
- Test: high-quality human labeled ground-truth



Dataset Statistics

Training	
# of images	1M
# of image/query pairs	23.1M
# of unique queries	11.7M
# of unique terms	915K
# of clicks	82.3M
# of queries per image (average)	23.1
# of images per query (average)	2.0
# of clicks per image	82.3

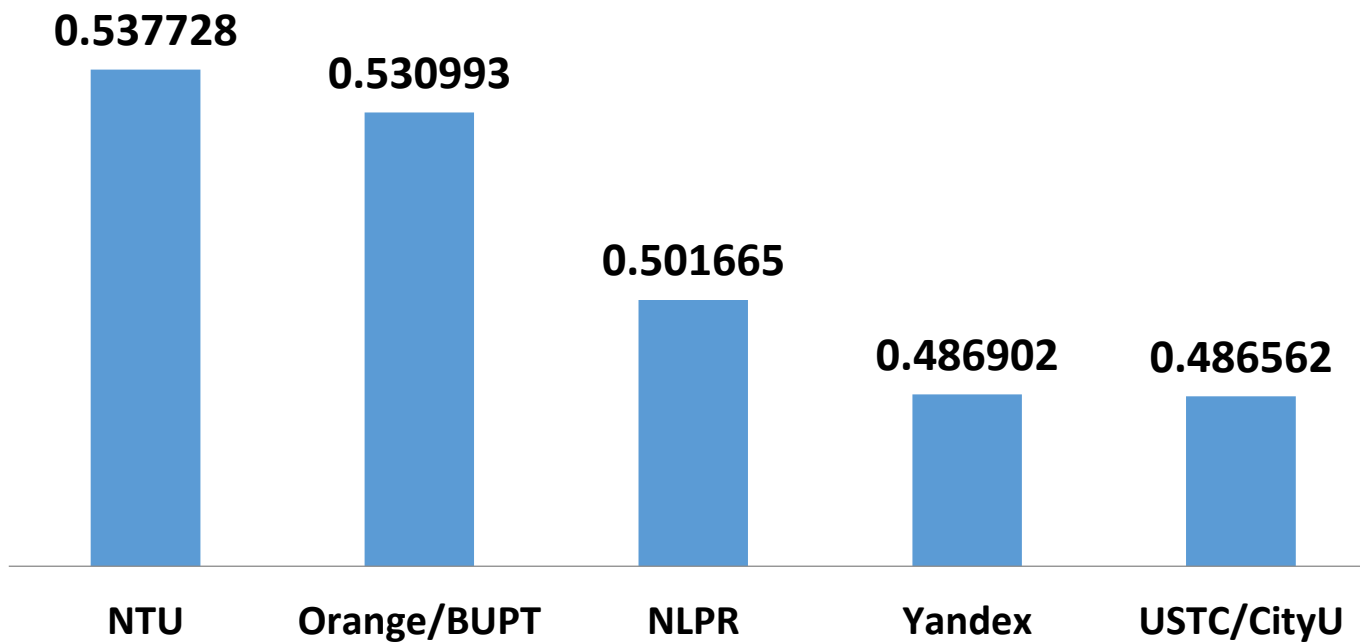
Submission Summary



- 39 valid submissions
- 21 are better than random guess

Winners' Results

DCG



Summary of Methods

- Search-based methods
 - Treat the training image set as the search index
 - Search for images relevant to the test query, aggregate their similarity with the test image and/or
 - Search for similar images to the test image, aggregate their clicked queries, calculate similarity with the test query
- Image similarity-based propagation in the test set
- Model-based methods
- Ensemble
- Face recognition

Thank You