**Visualizing Brand Associations from Web Community Photos**

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**Brand Association**

Answer to the question: *What comes to your mind when you think of Nike?*

- Competing brands of sports category: basketball, golf, soccer, national teams, ...
- Top-of-mind attitudes or feelings toward the brands
- Consumer-driven brand equity

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**Our Idea: Photo-based Brand Associations**

Take advantage of large online photo collections

- Tag as *burger+king*
- Pictorial opinion on *burger+king*
- Crawl millions of images tagged as *burger+king*
- Read people's candid pictorial opinions on *burger+king*

Why are online images helpful to discover brand associations?

1. Brands are recognized by images
2. Take or bookmark pictures of the products to buy
3. Capture interactions btw. users and products in natural social context

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**Objective of This Paper**

Two visualization tasks as a first technical step

1. *(Image-level)* Detect key pictorial concepts associated with brands
   - Identify and project a small number of exemplars/image clusters
2. *(Subimage-level)* Localize the regions of brand in images
   - Show interactions btw users and products

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**Dataset from Five Websites**

4,720,724 images of 48 brands of four categories

- **Luxury**
- **Sports**
- **Beer**
- **Fastfood**

Two largest photo sharing Web communities

- **flickr**
- **twibpic**

Various forms of artwork by users

- Photo hosted for twitter
- Pictures bookmarked by users

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**Overview of Approach**

- *(a) Image crawling*
- *(b) KNN image graph*
- *(c) exemplar detection and clustering*
- *(d) Brand localization*

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**Experiments - Brand Association Maps**

- Brands' characteristic visual themes
- Events sponsored by brands
- Wedding

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**Experiments – Brand Localization**

Task: Foreground detection

Examples

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**Experiments – Correlation with Sales Data**

Photo volumes vs. Market shares

- Ranking are roughly similar, but the proportions do not agree.
- *Guinness*: premium beer (more photo data)
- *Taco+bell*: cheap fastfood brand (fewer photo data)

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**Conclusion**

- Mine complementary views on brand associations from online pictures
- Jointly achieving two levels of visualization tasks
  - Visualizing core pictorial concepts associated with brands
  - Localizing the regions of brand in images
- Potential applications: Online multimedia context advertisement, competitor mining

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