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A picture is worth a thousand words : content-based image retrieval techniques

Thoméé, B.

Citation

Thoméé, B. (2010, November 5). *A picture is worth a thousand words : content-based image retrieval techniques*. Retrieved from <https://hdl.handle.net/1887/16108>

Version: Corrected Publisher's Version

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Downloaded from: <https://hdl.handle.net/1887/16108>

Note: To cite this publication please use the final published version (if applicable).

PROPOSITIONS
pertaining to the thesis

A picture is worth a thousand words
Content-based image retrieval techniques

by Bart Thomée

1. To obtain high accuracy in the context of near-duplicate image detection, it is not necessary to use a large nor computationally intensive image descriptor.
[this thesis, chapter 6]
2. When a retrieval system uses image features that are not discriminating enough, it is very beneficial to have access to an interface that allows you to quickly navigate to and explore other parts of the image collection.
[this thesis, chapter 4]
3. The main performance differences between current near-duplicate image detection methods are generally caused by how well they are able to deal with images that are modified using rather exotic transformations. Yet, it is often doubtful people would still consider such kind of images to be duplicates.
[this thesis, chapter 6]
4. Not many descriptors are suitable for both image synthesis and image retrieval. In the context of artificial imagination-based retrieval, a simple, yet elegant, solution for this issue is to use two independent descriptors for the representation of the images in the collection, where one is only used for retrieval and the other only for synthesis.
[this thesis, chapter 3]
5. The original question ‘Can machines think?’, which was considered by Alan Turing in 1950, can be reframed as ‘Can machines imagine?’. I propose a new test, similar in setup to the Turing Test, that tests a machine’s ability to demonstrate visual imagination, and I expect that someday the human observer will not be able to tell apart the machine from the human.
6. With current estimates putting the total number of images available on the internet into the tens of billions, finding an image of interest is like finding a needle in a haystack.
7. In this day and age, where collections often already contain millions of images and keep on increasing in size, there is no justification for researchers to continue testing their new algorithms on small image sets, since it has been repeatedly shown that techniques that work well for small collections frequently perform poorly on large collections.
8. The abundance of information in the world provides opportunities to discover patterns and extract meaningful knowledge like never before, yet at the same time does the sheer quantity of information make it exceedingly difficult to do so.
9. Just like grass always seems greener on the other side of the fence, do bits always seem to be holding better content on the other side of the firewall.