

Combining pixel domain and compressed domain index for sketch based image retrieval

By: [Pimentel, CAF](#) (Fraga Pimentel Filho, Carlos Alberto)^[1,3]; [Bustos, B](#) (Bustos, Benjamin)^[2]; [Araujo, AD](#) (Araujo, Arnaldo de Albuquerque)^[3]; [Guimaraes, SJF](#) (Ferzoli Guimaraes, Silvio Jamil)^[1]

[View ResearcherID and ORCID](#)

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Abstract

Sketch-based image retrieval (SBIR) lets one express a precise visual query with simple and widespread means. In the SBIR approaches, the challenge consists in representing the image dataset features in a structure that allows one to efficiently and effectively retrieve images in a scalable system. We put forward a sketch-based image retrieval solution where sketches and natural image contours are represented and compared, in both, the compressed-domain of wavelet and in the pixel domain. The query is efficiently performed in the wavelet domain, while effectiveness refinements are achieved using the pixel domain to verify the spatial consistency between the sketch strokes and the natural image contours. Also, we present an efficient scheme of inverted lists for sketch-based image retrieval using the compressed-domain of wavelets. Our proposal of indexing presents two main advantages, the amount of the data to compute the query is smaller than the traditional method while it presents a better effectiveness.

Keywords

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Author Information

Reprint Address: Guimaraes, SJF (reprint author)

+ Pontif Catholic Univ Minas Gerais PUC Minas, VIPLAB, Dept Comp Sci, Belo Horizonte, MG, Brazil.

Addresses:

+ [1] Pontif Catholic Univ Minas Gerais PUC Minas, VIPLAB, Dept Comp Sci, Belo Horizonte, MG, Brazil

- + [2] Univ Chile, Dept Comp Sci, Santiago, Chile
- + [3] Fed Univ Minas Gerais UFMG, Dept Comp Sci NPDI, Belo Horizonte, MG, Brazil

E-mail Addresses: arnaldo@dcc.ufmg.br; sjamil@pucminas.br

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