

Vyhledávání obrázků



Sémantika a počítače

Eva Kolářková

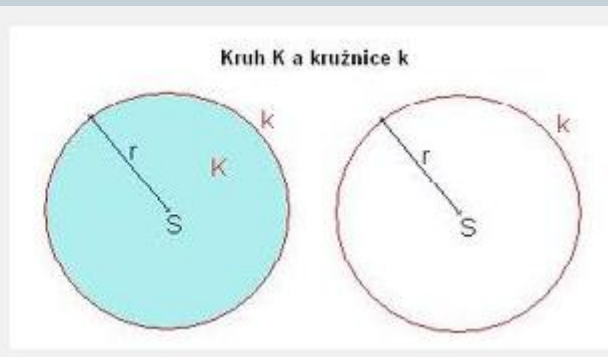
382878

7. 5. 2014

Google Image Search



- nejznámější vyhledávač
- hledání pomocí metadat (název, adresa, titulek)
- mnoho dat → relevantní výsledky (!)
- řazení podle PageRanku



MUFIN Image Search



- Multi-Feature Indexing Network
- FI MUNI, tým prof. Zezuly
- hledání podle vizuálních deskriptorů
- datové kolekce z Flickeru
- obrázek popsán 5 deskriptory dle MPEG-7

0.014089574



Visually similar

1.3075911



Visually similar

1.3297875



Visually similar

1.4045941



Visually similar

1.4066392



Visually similar

1.4150023



Visually similar

Google Similar



Související obrázky:



Na obrázky se mohou vztahovat autorská práva. Odeslat rázci

WebSeer



- 1996, Charles Frankel, Michael J. Swain, and Vassilis Athitsos
- kombinované hledání
- dělení obrázků na fotografie, animace, kresba
- obsah obrazu: barevnost, velikost, typ
- klasifikace obrázků: obličej (počet, typ) × krajina



I am Looking for:

Dimensions

File Size

Colors

Image Origin

If you are looking for people, please tell us:

Number of Faces

Size of Portraits



Here's what I found



Blobworld



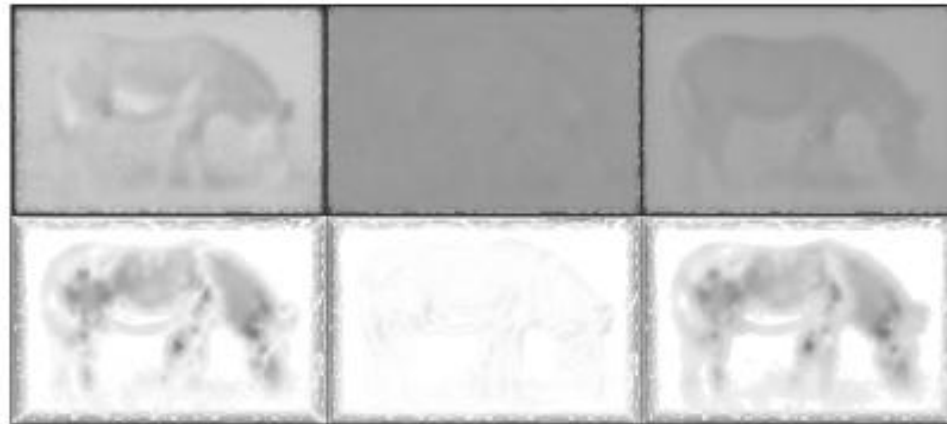
- Chad Carson, Serge Belongie, Hayit Greenspan, Jitendra Malik
- segmentace obrázků
- transformace na obr. oblasti s koherentní barvou a texturou
- Gaussovo rozostření a Expectation-Maximization alg.



(a)



(b)



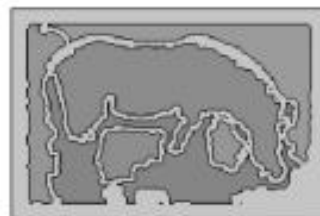
(c)



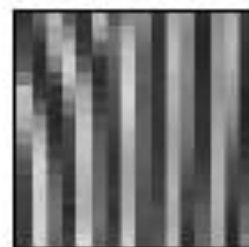
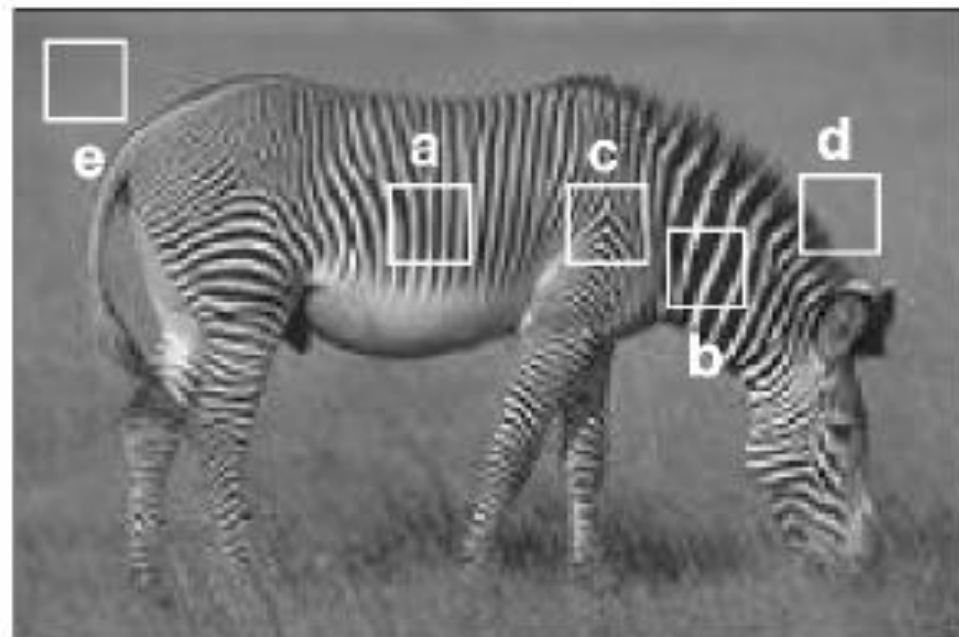
(d)



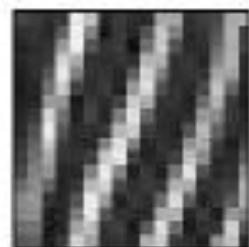
(e)



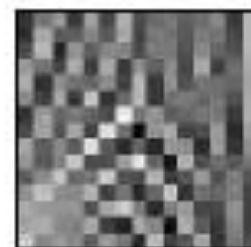
(f)



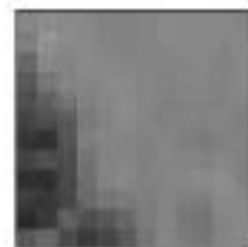
(a)



(b)



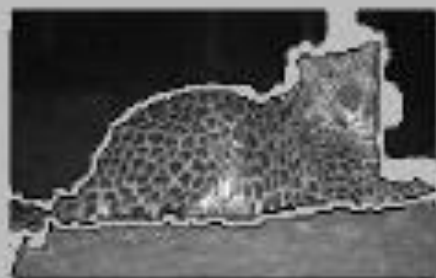
(c)



(d)



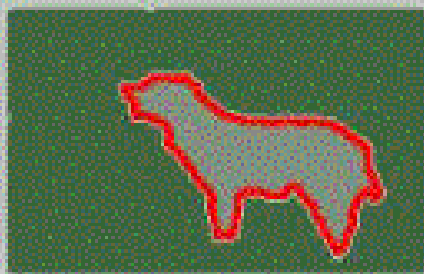
(e)



Location Toolbar



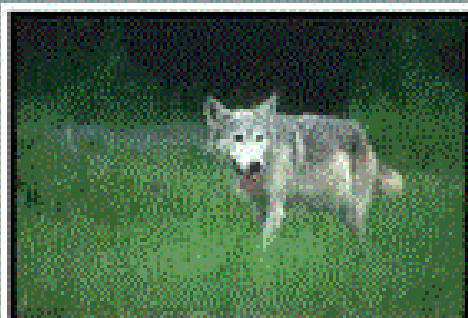
Query image: 110061



Query blobs

	feature importance:				
	overall	color	texture	location	sh
blob	very	very	somewhat	somewhat	s
background	somewhat	very	not	not	s

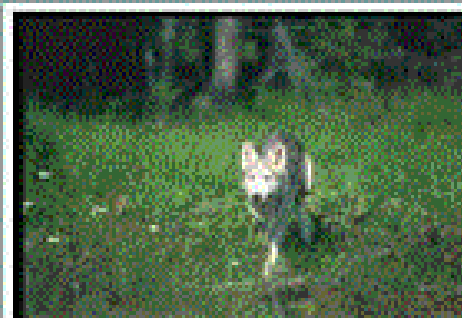
Querying from 35000 images (2000 returned by the filter).



1: 110055 (score = 0.99)



[New query](#)



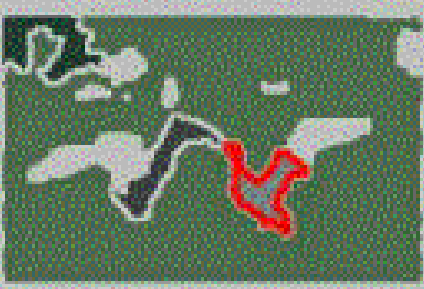
2: 110067 (score = 0.98)



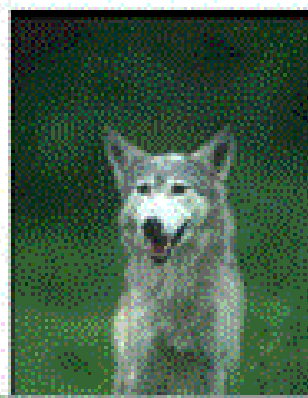
[New query](#)



3: 103026 (score = 0.98)



[New query](#)





Keywords

GRASS TIGER CAT FOREST

Predicted Words (rank order)

tiger cat grass people water
bengal buildings ocean forest
reef



Keywords

HIPPO BULL mouth walk

Predicted Words (rank order)

water hippos rhino river grass
reflection one-horned head
plain sand



Keywords

FLOWER coralberry LEAVES
PLANT

Predicted Words (rank order)

fish reef church wall people
water landscape coral sand
trees

Retrievr

Welcome in 2006 2011!

retrievr

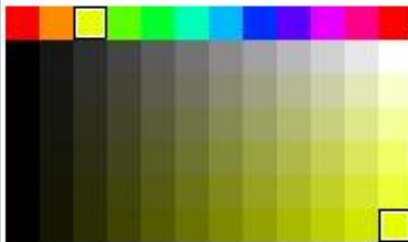
All images

Search by:
Sketch • [Image](#)



◀ Undo Redo ▶ Clear

● 20 30 50



From [miliken gardner](#)



From [Inoka Chui](#)



From [Cereal-Killer 72](#)



From [uselesspsychic](#)



From [L'hort de la Lolo](#)



From [Tru-man](#)



From [ايان السحيم](#)



From [hkvam](#)



From [Mystic Hues](#)



From [racketrx](#)



From [marywilson's eye](#)



From [javiv](#)





Děkuji za pozornost.

Zdroje



- http://mufin.fi.muni.cz/tiki-index.php?page_ref_id=11
- <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.73.2206&rep=rep1&type=pdf>
- <http://www.cs.berkeley.edu/~malik/papers/CBGM-blobworld.pdf>
- http://www.wisdom.weizmann.ac.il/~vision/courses/2003_2/barnard_oolearning.pdf
- <http://labs.systemone.at/retrievr/about>