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Deep Structure, Singularities, and Computer Vision

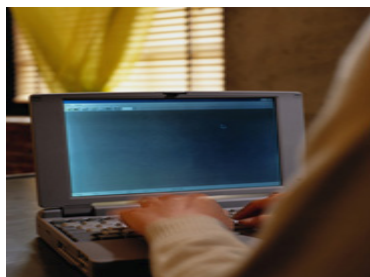
Results in Brief

New algorithm for querying images

Focusing on improving computer vision tasks, the DSSCV evaluated the performance of a newly developed object matching algorithm aimed for a structural search in image databases.



DIGITAL ECONOMY



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Current state-of-the-art practices for handling computer vision tasks potentially exhibit disadvantages. For instance, a top-down approach may involve increased computation, while a bottom-up approach often excludes required small-scale information. Answering this need the DSSCV project work concentrated on finding multi-scale image summaries with the aid of singularity,

algorithmic, and scale-space theory.

One of the main objectives was the efficient representation of images in order to facilitate computational tasks. Robust algorithms for image coding, image search and structural search were realised. Thereby, a prototype object retrieval algorithm that was based on a combination of pioneering heuristics and rigorous mathematics was developed. This advanced, transparent algorithm sets the object retrieval issue into a well-understood conceptual framework.

The new algorithm is still generic, without any requirements on application specific

tuning or incorporation of hidden parameters. Nevertheless, it was shown that its performance is very close to the performance of other state-of-the-art heuristic algorithms. It is expected that this novelty may lead to a fully operational generic object retrieval tool for structural search in image databases.

Currently, efforts are made to optimise the computational efficiency of the new algorithm and determine deviations from similarity transformations between query object and matching scene object. For more information click at:

<http://www1.itu.dk/sw1953.asp> 

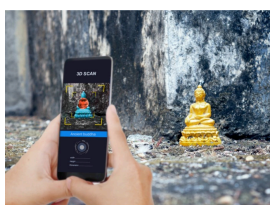
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Project Information

DSSCV

Grant agreement ID: IST-2001-35443

[Project website](#) 

Project closed

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