UNIVERSITY OF CENTRAL FLORIDA

CENTER FOR RESEARCH IN COMPUTER VISION

Dr. Arnold W.M. Smeulders

University of Amsterdam

"Object recognition"
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ABSTRACT

Arnold W.M. Smeulders, University of Amsterdam with Cees Snoek

We give an overview of the recognition of visual objects by their semantic type and video search computational strategies, with an emphasis on providing insight why they work. We do so on the basis of the submissions to the TRECVID competition where we have achieved consistently in the top-2 performance over the last 10 years. In this part of the talk we start from an overview of the bag of words pipeline, discussing the contributions to the increase in performance: the introduction of color, the principle of soft assignment, Fisher vector classification, code book construction and the efficient gathering of data from social media sources all have contributed to an improved performance as well as a reduced computation time. Then we discuss the what and where in the image. This leads to the principle of selective search improving the classification of object types. Of all tasks in computer vision, none has seen such a dramatic improvement over the last decade as the recognition of objects by their semantic types.

BIOGRAPHY

Arnold W.M. Smeulders is director of COMMIT, the nation-wide public-private research program for ICT, at CWI. He is chairman of IPN, the national policy committee of the national science and member of the national top team for ICT. With Cees Snoek, he leads the ISIS-research group on image and video search engines at the University of Amsterdam for research in the theory and practice of visual search, sponsored nationally and internationally. The group has been given the top-rank in the last two visits of the international visitation on ICT in the Netherlands. He is co-owner of Euvision Technologies BV, a company spun off from the UvA.