



Diplomanden- und Doktorandenseminar
des Instituts für Informatik

Continuous Edge Gradient-Based Template Matching for Articulated Objects

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In this paper, we propose a novel edge gradient based template matching method for object detection. In contrast to other methods, ours does not perform any binarization or discretization during the online matching. This is facilitated by a new continuous edge gradient similarity measure. Its main components are a novel edge gradient operator, which is applied to query and template images, and the formulation as a convolution, which can be computed very efficiently in Fourier space.

We compared our method to a state-of-the-art chamfer based matching method. The results demonstrate that our method is much more robust against weak edge response and yields much better confidence maps with fewer maxima that are also more significant. In addition, our method lends itself well to efficient implementation on GPUs: at a query image resolution of 320×256 and a template resolution of 80×80 we can generate about 330 confidence maps per second.

Dienstag, den 20.01.2009

10:40 Uhr in Hörsaal T1, Hörsaalgebäude,
Albrecht-von-Groddeck-Straße 7