

From Stixels to Objects - A Conditional Random Field based Approach

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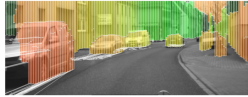
(a) Left original gray value image.



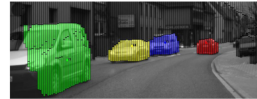
(c) Multi-Layered Stixel World [21].



(b) SGM [15] stereo image. The distance is color encoded ranging from red (close) to green (far away).



(d) Dynamic Stixel World [22]. The arrows show the predicted position of the stixels for the next half second.



(e) Object segmentation result. The color encodes the different object classes, the static background is shown in black.

- ▶ Detection and tracking of moving traffic participants from a mobile platform using a stereo camera system
- ▶ Bayesian segmentation approach based on the Dynamic Stixel World
- ▶ In real-time using alpha-expansion multi-class graph cut optimization scheme
- ▶ Integrating 3D and motion features, spatio-temporal prior knowledge, and radar sensor in a CRF
- ▶ Evaluated quantitatively in various challenging traffic scenes