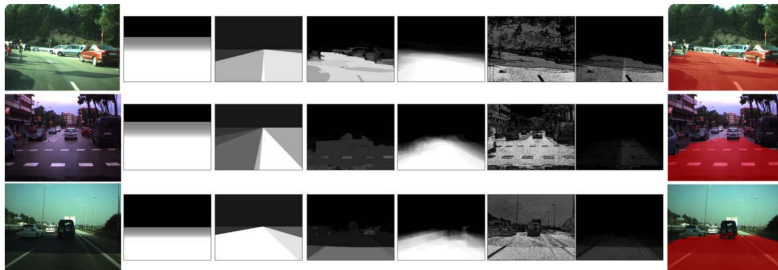


3D Scene Priors for Road Detection

J. M. Alvarez, T. Gevers, and A. M. Lopez (CVPR2010)



- ▶ Visionbased road detection
- ▶ Current methods:
 - ▶ Based on low-level features only
 - ▶ Assuming structured roads, road homogeneity, and uniform lighting conditions
- ▶ Information at scene, image and pixel level by exploiting sequential nature of the data
- ▶ Low-level, contextual and temporal cues combined in a Bayesian framework
- ▶ Contextual cues as horizon lines, vanishing points, 3D scene layout and 3D road stages
- ▶ Robust to varying imaging conditions, road types, and scenarios (tunnels, urban and high-way)
- ▶ Combined cues outperforms all other individual cues.