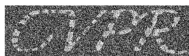


A higher-order CRF model for road network extraction

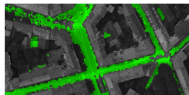
J. D. Wegner, J. A. Montoya-Zegarra, K. Schindler (CVPR 2013)



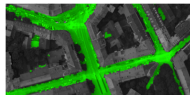
input data



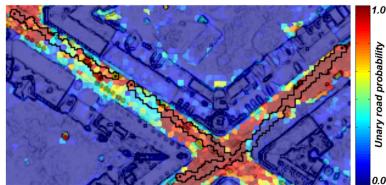
superpixel labeling



unary labeling



proposed method



- ▶ Extract road network from aerial images
- ▶ Problem: Pairwise potentials smooth out thin structures
- ▶ Novel CRF with higher-order cliques connecting superpixel along line segments as prior
- ▶ Sampling scheme that concentrates on most relevant cliques with a data-driven approach
- ▶ Random Forest unaries
- ▶ Evaluation on Graz and Vaihingen road network dataset
- ▶ Outperforms a simple smoothness and heuristic rule-based baseline