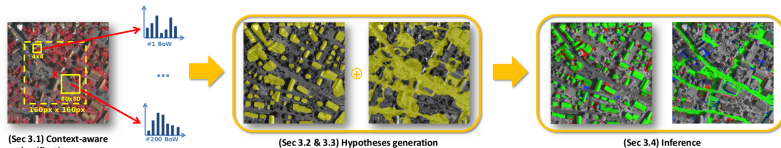# Semantic Segmentation of Aerial Images in Urban Areas with Class-specific Higher-order Cliques

J. A. Montoya-Zegarra, J. D. Wegner, L. Ladick, and K. Schindler (CPIA 2015)

- Semantic segmentation of urban areas in high-resolution aerial images
- Highly heterogeneous object appearances and shape
- Using high-level shape representations as class-specific object priors
    - Buildings by sets of compact polygons
    - Roads as a collection of long, narrow segments [1]
- Pixel-wise classifier to learn local co-occurrence patterns
- Hypotheses generation for possible road segments and segments of buildings in a data-driven manner
- Inference in a CRF with higher-order potentials
- Accuracies of $> 80\%$ on Vaihingen dataset

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[1] Mind the Gap: Modeling Local and Global Context in (Road) Networks, GCPR 2014