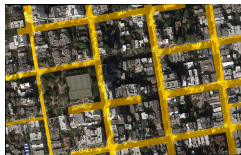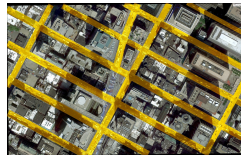# Aerial Images for enhancing maps

[G. Mattyus, S. Wang, S. Fidler and R. Urtasun, ICCV'15]

Toronto: Airport   San Francisco: Russian Hill   NYC: Times square

Kyoto: Kinkakuji   Sydney: At Harbour bridge   Monte Carlo: Casino

- Can segment the whole world in 24h in 10 computers!

What are we going to cover in this course?

- Sensors and platforms
- Datasets
- Models, Algorithms and Techniques:
  - Reconstruction and free-space estimation
  - Motion Estimation
  - Localization
  - Semantics
  - Mapping
- Law and Ethics

Topics to Choose for Presentation

- Reconstruction
  - ▶ Stereo estimation
  - ▶ SLAM
- Motion Estimation
  - ▶ Visual Odometry
  - ▶ Optical Flow and Scene Flow
- Localization
  - ▶ Place Recognition approaches
  - ▶ Appearance-less localization
- Mapping
  - ▶ Semantic SLAM
  - ▶ Aerial Image Parsing
- Semantics
  - ▶ Detection
  - ▶ Semantic Segmentation
  - ▶ Instance-level segmentation
  - ▶ Tracking
  - ▶ 3D Scene Understanding
- Law and Ethics