

# Localizing Images and Videos on Earth (LIVE)

Jan-Michael Frahm, Svetlana Lazebnik



# Real-time Scene Reconstruction

Multi-camera system

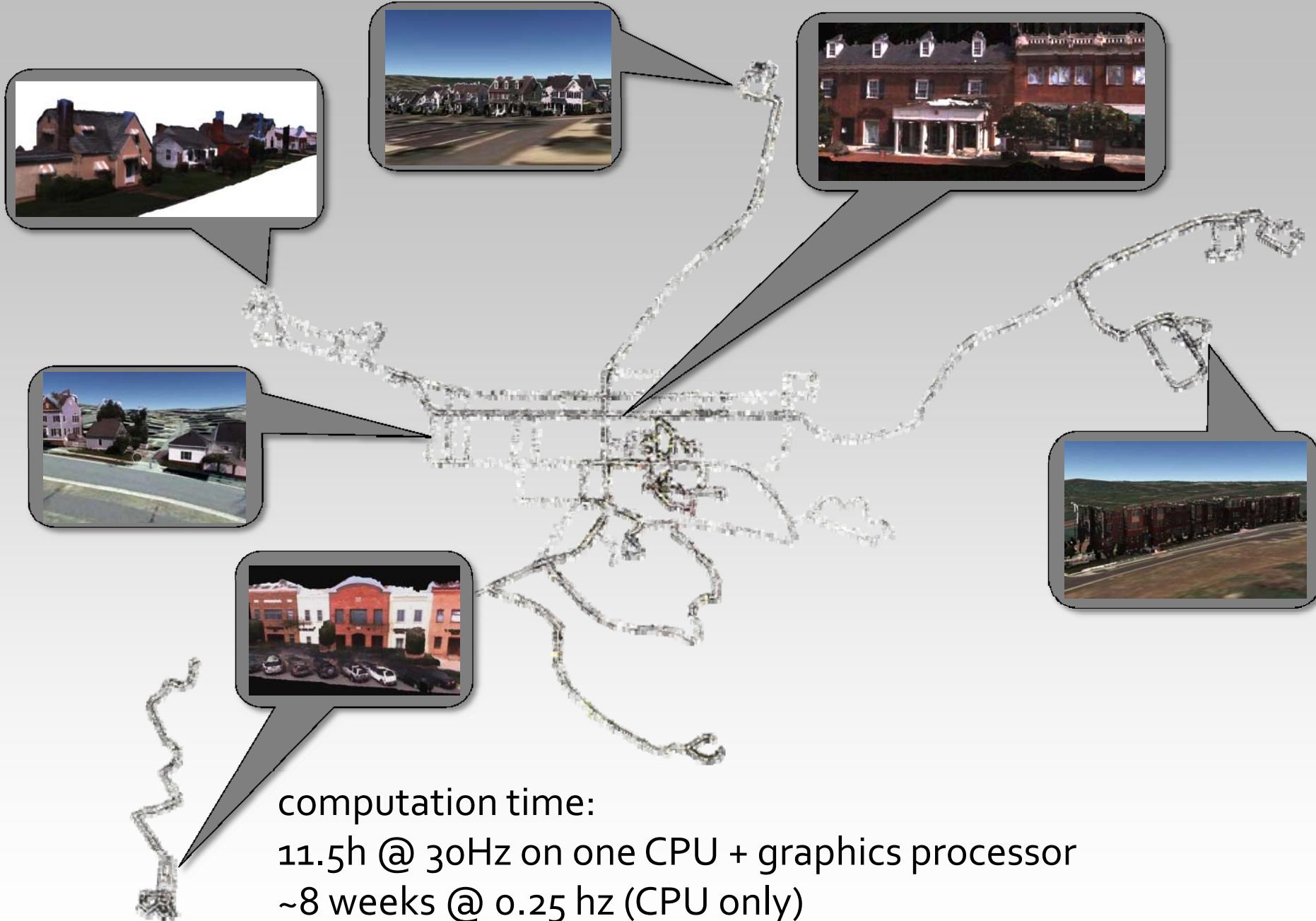


GPS & orientation



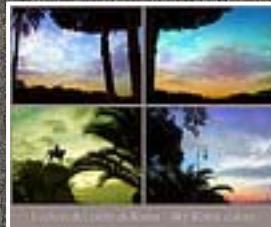
UNC (Pollefeys, Frahm) & UKY (Nistér, Yang) UrbanScape project (DARPA)





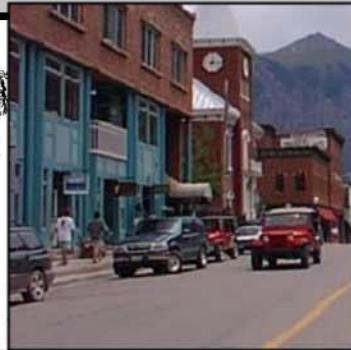
computation time:

11.5h @ 30Hz on one CPU + graphics processor  
~8 weeks @ 0.25 hz (CPU only)



2 million images of Rome

# Applications



Query image

Retrieval set of similar images



Building

Road

Building

Sky

Vertical

Sky

Car

Horizontal

Road

Semantic Classes

Geometric Classes

Car Sky

Per-class likelihood

- A state-of-the-art image parsing system for dynamic “open universe” datasets
- Large-scale results to date: database of 35K indoor and outdoor scenes, 200+ labels

Real-time!

