# CORE3D Teaming

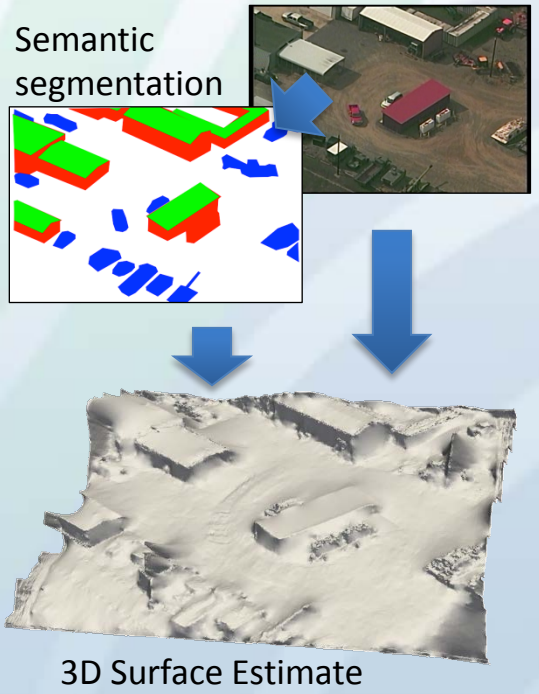
Proposers' Day – March 30, 2016

Lead Investigators: Dr. Anthony Hoogs

Dr. Matt Leotta

# Research Areas of Interest

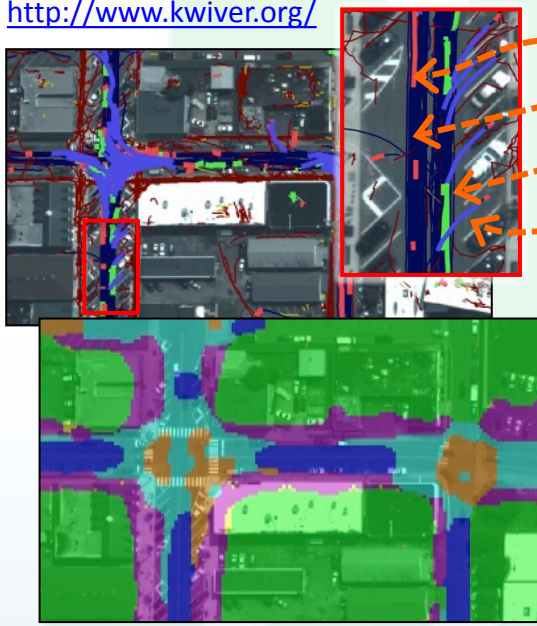
- Functional recognition
  - Application of deep learning to
    - Recognition by function
    - Semantic image segmentation
    - Object detection in imagery
- 3D from multi-view imagery
  - Geometry estimation influenced by object recognition

# Unique Capabilities

- Collaborative Research, Open Source Software Platforms
- Combined Computer Vision, Visualization, and HPC

KWIVER
http://www.kwiver.org/

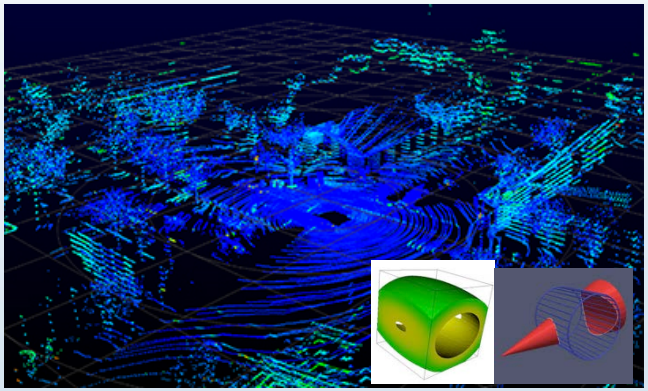



## Recognition of objects by function

- Developed under DARPA SBIRs
- Swears E., Hoogs A., Boyer K., *Pyramid Coding for Functional Scene Element Recognition in Video Scenes*, ICCV 2013

ParaView

CMake



## Large Scale Visualization

- HPC parallel rendering of massive data sets
- Point cloud and solid model rendering, including CSG
- http://www.paraview.org/

MAP-TK

## 3D Surfaces from multi-view overhead imagery

- Developed under DARPA & AFRL SBIRs
- Leotta M., Smith E., Dawkins M., Tunison P., *Open Source Structure-from-Motion for Aerial Video*, WACV 2016

Kitware

# Teaming

- We are looking for partners with expertise in:
  - Fitting CSG models to 3D point clouds
  - Object classification in 3D point clouds

# Contact Information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