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3D Pose Estimation Testing Data Usage

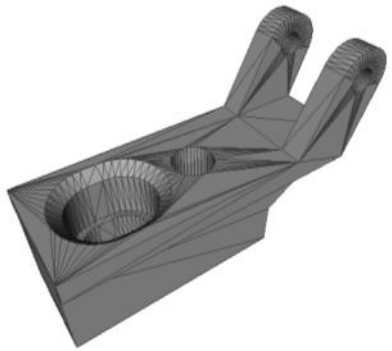
Sep 20, 2015

Testing Data

Meshlab

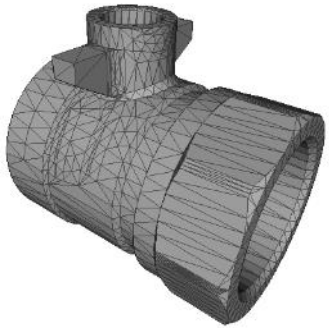
3-D mesh model viewer and manipulation tool

- 6 different work parts (objects)

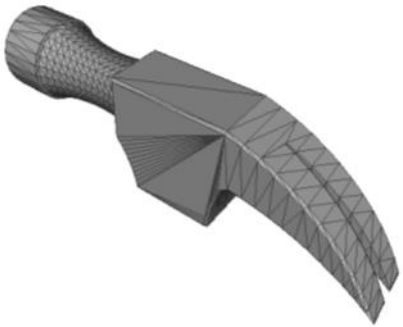


BRAZO

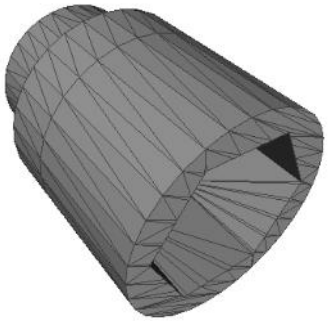
CYLINDER



FINEFOOD



HAMMERHEAD



SOCKET

WRENCH

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Description of test data

- Each work part has depth image and point clouds generated by a virtual depth sensor from 162 view angles
- File naming convention
  - [*name*]_vidx([*index*])_rx([*angle in deg*])_ry([*angle in deg*])
  - name: work part name
  - vidx: view angle index [0, 161]
  - rx, ry: rotation angle about x and y axis (degrees) rx:[-80:20:80] ry:[0:20:340]
- Format
  - Point cloud file：Object File Format (.off) http://segeval.cs.princeton.edu/public/off_format.html
  - Depth image(display only)：Portable Network Graphics (.png) http://en.wikipedia.org/wiki/Portable_Network_Graphics

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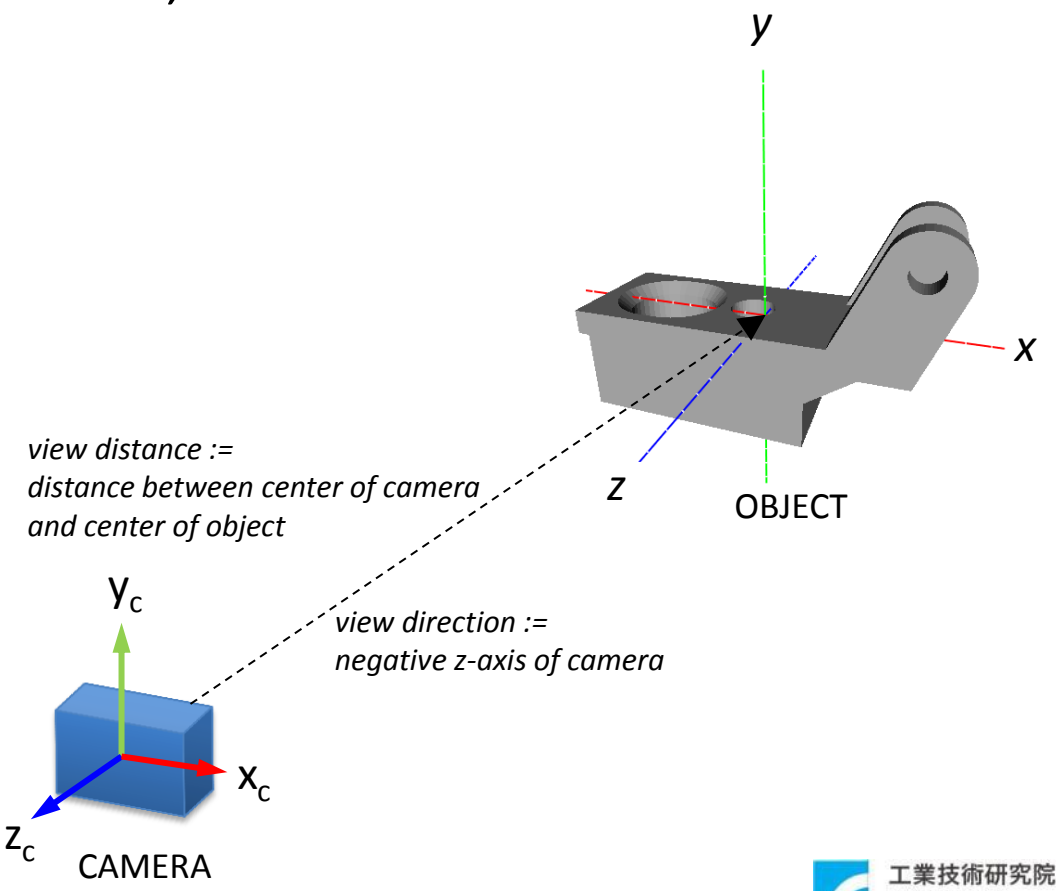
Coordinate system definition and configuration parameter

- Coordinates and rotation angle rx, ry in test data are all with respect to sensor(camera) coordinate system
- Rotation order is Z-axis, Y-axis, X axis. But rz=0

Properties	Values
Image width	640 (pixels)
Image height	480 (pixels)
FOV angle (vertical)	20 (degrees)
View distance	800 (user-defined unit)



How to use the test data to verify a pose estimation algorithm?