

Stereo Gesture Recognition Application

The application is designed for demonstrating the work of the PointGrey stereo camera and stereo algorithms such as 3D gesture recognition.

How-To

PointGrey camera

- Start StereoGR.exe
- Go to View menu and select the views that you would like to visualize
- To change the resolution, go to Options->Settings, change the resolution and restart the application
- In PointCloud view, use mouse LB to rotate the view and Shift+LB to pan the view.

Gesture recognition

The user can create a gesture database by providing the system with several samples of each gesture. To record a gesture sample:

- Go to Options->Settings and select “Dynamic gesture properties” tab
- “Collect gesture” turns on the gesture recording. Only the frames with the arm in front of the camera are recorded. When the algorithm finds the arm in front of the camera it turns the red rectangle in the “Right raw image” to green. Short gestures are filtered out. Check the recorded samples using “DynGesture statistics” tab.
- To save the samples set, press File->SaveDGBase

To recognize gestures:

- Train the HMM model of the recorded samples using the “train existing gestures” button
- Make sure that “Collect gesture” on Options->Settings->”Dynamic gesture properties” is checked
- Select the “Magic Cube” view
- Press the “Recognize gestures” button and make a gesture. If the system recognizes a gesture, it prints the name on the status bar. If the name is one of predefined names, the magic cube reacts correspondingly.