

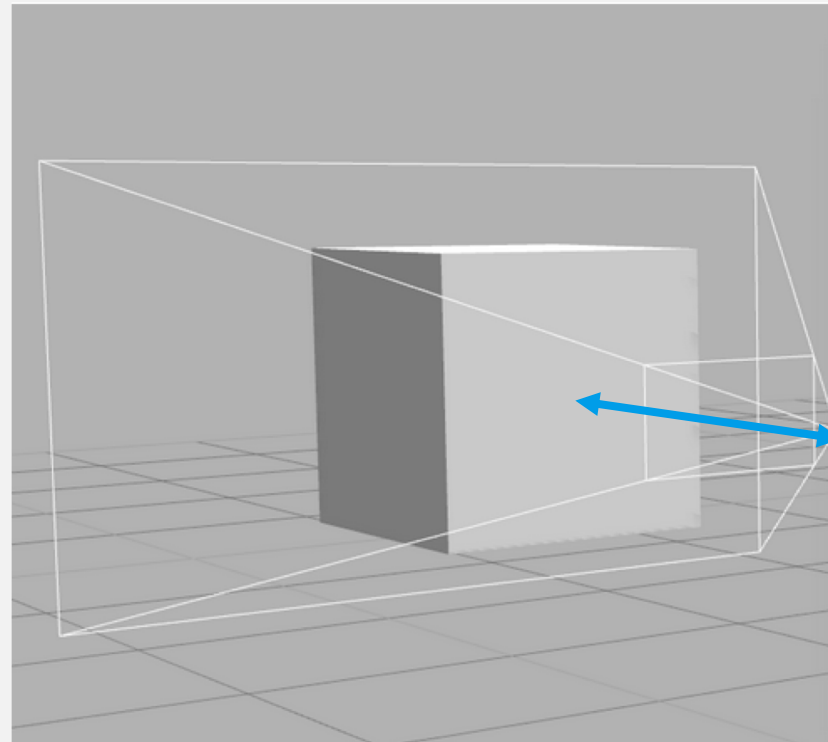
The background features a faint, stylized illustration of a robotic arm with a camera head, positioned over a table with various objects. These objects include blocks labeled '1', '2', '3', 'HELLO', and 'WORLD', as well as a 'ROS' logo. The scene is set against a light yellow background with a horizontal band of light orange.

5.1.3

Logical camera - accessing data

Logical camera data

- Logical camera outputs model names and **poses** of objects
 - poses contain position and orientation information.



logical_camera_frame

Logical camera data - ROS Topic

- hrwros_gazebo/msg/LogicalCameraImage.msg

```
donnie@tudelft:~/ros/hrwros_ws/src/hrwros/hrwros_gazebo$ rosmmsg show hrwros_gazebo/LogicalCameraImage -r
# Logical camera image message
Model[] models                # models detected (poses in the frame of the camera)
geometry_msgs/Pose pose       # camera pose
```

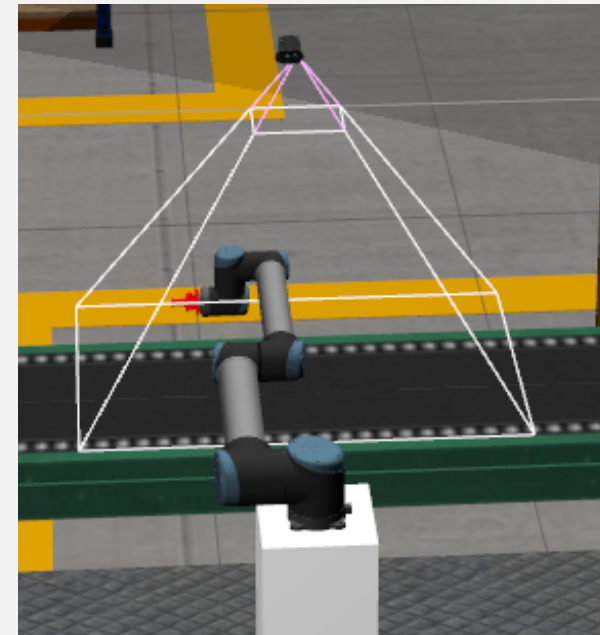
```
donnie@tudelft:~/ros/hrwros_ws/src/hrwros/hrwros_gazebo$ rosmmsg show hrwros_gazebo/Model
string type
geometry_msgs/Pose pose
  geometry_msgs/Point position
    float64 x
    float64 y
    float64 z
  geometry_msgs/Quaternion orientation
    float64 x
    float64 y
    float64 z
    float64 w
```

Logical camera data - ROS Topic contents

Publish pose of detected object models

```
$ rostopic echo /hrwros/logical_camera
```

```
models:
-
  type: "conveyor_belt"
  pose:                     
    position:
      x: 1.99999936586
      y: 3.2
      z: -0.00159265342147
    orientation:
      x: 0.499851774105
      y: -0.499749978058
      z: -0.500249978037
      w: 0.500148100895
-
  type: "conveyor_belt_fixed"
  pose:                     
    position:
      x: 1.99999936586
      y: 3.2
      z: -0.00159265342147
    orientation:
      x: 0.499851774105
      y: -0.499749978058
      z: -0.500249978037
      w: 0.500148100895
```



Logical camera data - model name

```
<model name="conveyor_belt_fixed">
```

```
  <static>true</static>
```

```
  <pose>0 0 0 0 0 0</pose>
```

```
  <link name="link">
```

```
    <pose>0 0 0 0 0 0</pose>
```

```
  </link>
```

```
</model>
```

```
<model name="conveyor_belt_moving">
```

```
  <static>false</static>
```

```
  <pose>0 0 0.92 0 0 0</pose>
```

```
  <link name="belt">
```

```
    <pose>5 0 -0.003 0 0 0</pose>
```