

# Kalibr Camera Calibration

Previously, I used ROS Calibration in order to calibrate the IDS camera with Fisheye lens. However, as I have learned when trying to undistort the image with the result of the calibration, ROS Calibration works only with normal lenses.

Therefore, I had to look for a calibration that works with fisheye lenses, and that's when I found Kalibr. In order to use Kalibr I have done the following steps:

- Installation:
  - 1) I have created a new ROS workspace.
  - 2) Then I cloned the following GitHub repository in to the src folder:  
<https://github.com/ethz-asl/kalibr>
  - 3) Then I performed “catkin\_make” inside the workspace directory.  
I had to install some of the dependencies that I was missing (They are listed in their installation guide)
  - 4) I have made the following 2 files:
    - Checkboard.yaml:

```
target_type: 'checkerboard' #gridtype
targetCols: 8              #number of internal chessboard corners
targetRows: 6              #number of internal chessboard corners
rowSpacingMeters: 0.103    #size of one chessboard square [m]
colSpacingMeters: 0.103    #size of one chessboard square [m]
```
    - Calibration.bag: Which is a bag file, that contains a video of the checkboard from different angles.  
I have made this file, using the:
      - 1) Capturing the video into images file Desktop/IDS  
Camera/Code/python/capturevideoUEye.py
      - 2) Making the bag file using:  
Desktop/DSO/catkin\_ws/src/BagFromImages

5) Then I performed the following command:

In the following directory:

`src/kalibr/aslam_offline_calibration/kalibr/python`

`“./kalibr_calibrate_cameras --target <path to yaml file> --bag <path to bag file> --models pinhole-equi`