A decorative graphic on the left side of the slide consisting of two overlapping parallelograms. The front one is blue and the back one is a light greenish-blue. They are positioned diagonally, with the blue one partially covering the green one.

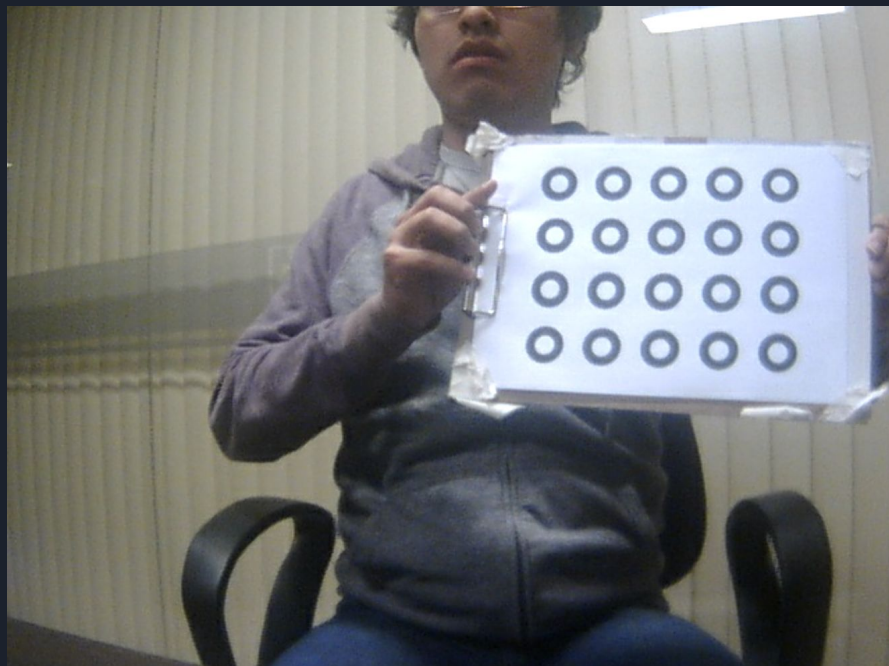
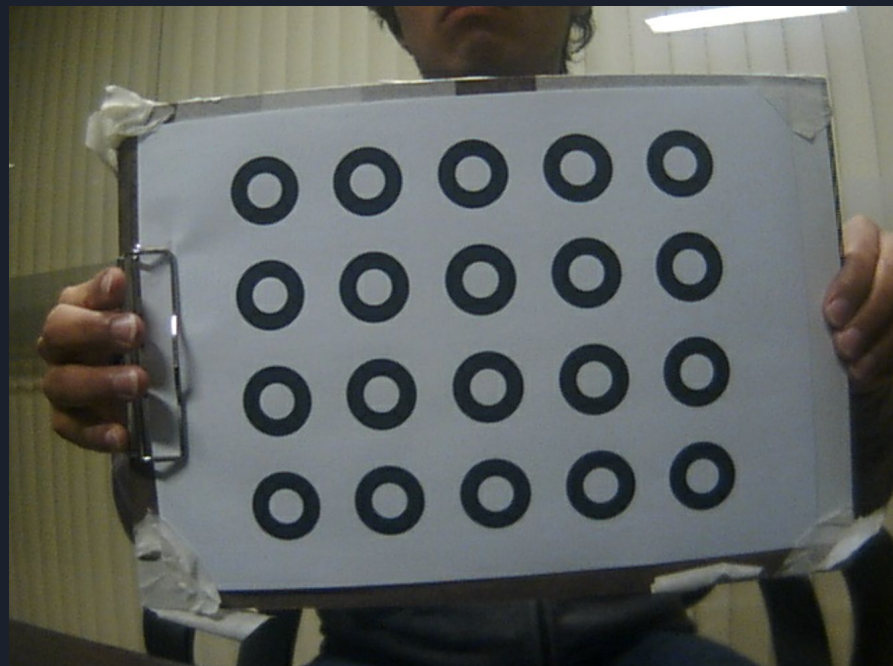
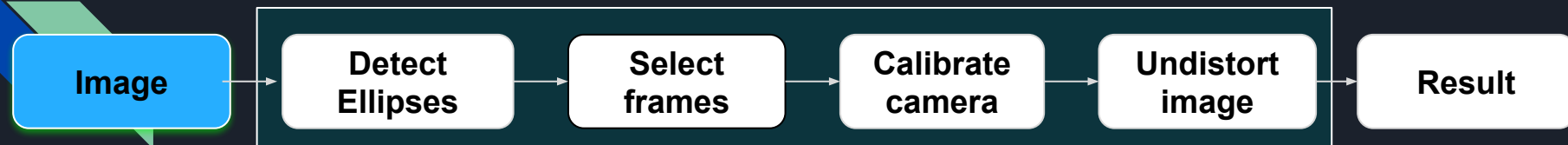
Camera calibration using adaptive segmentation and ellipse fitting

Authors:

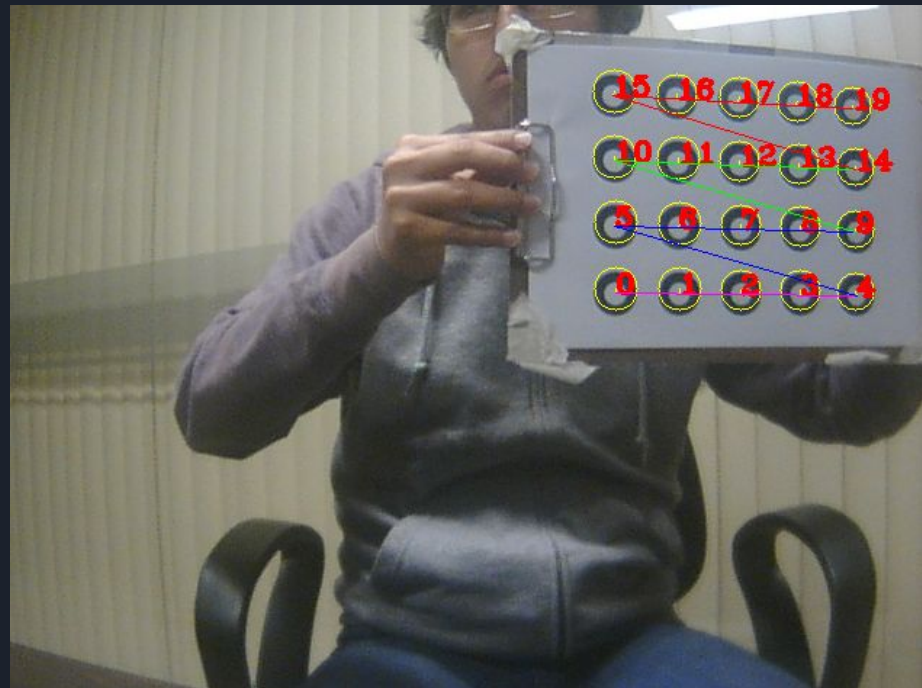
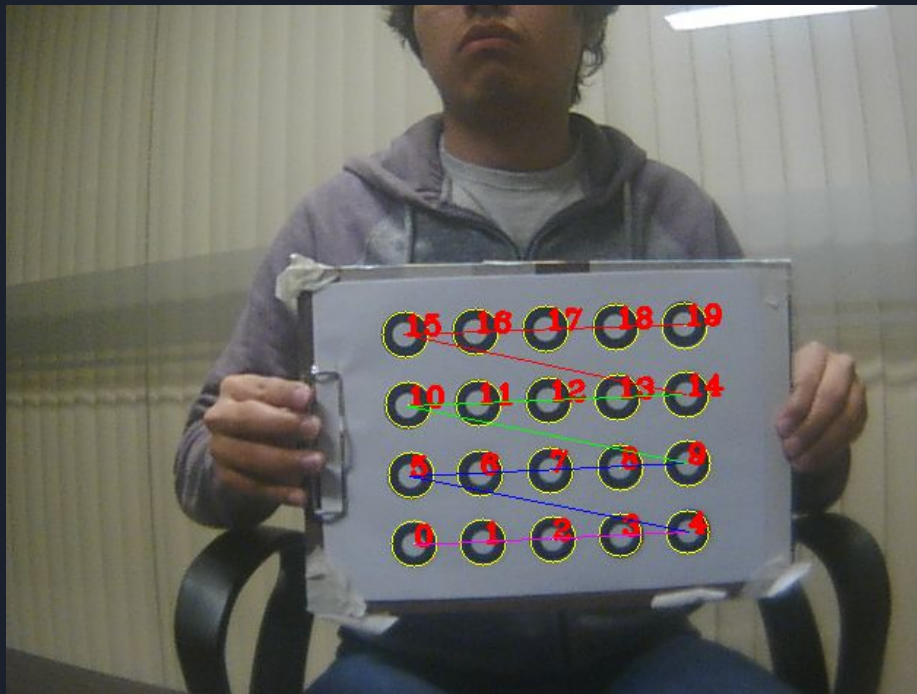
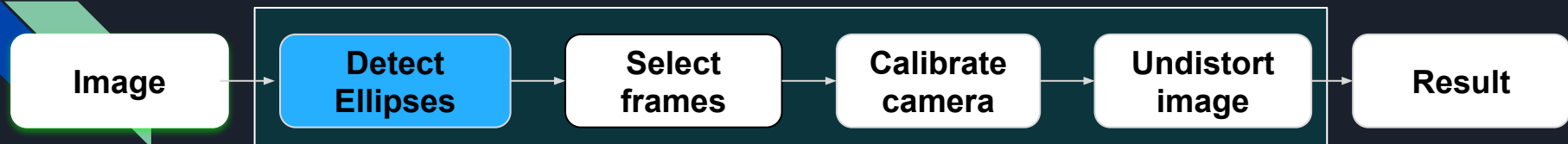
Raúl Romaní Flores

Paul Alonzo Quio Añamuro

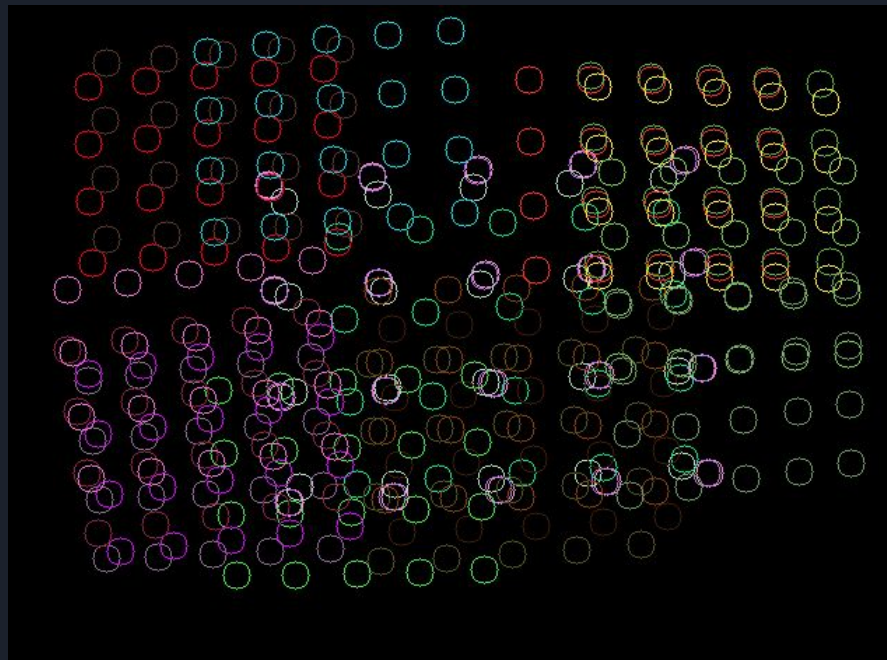
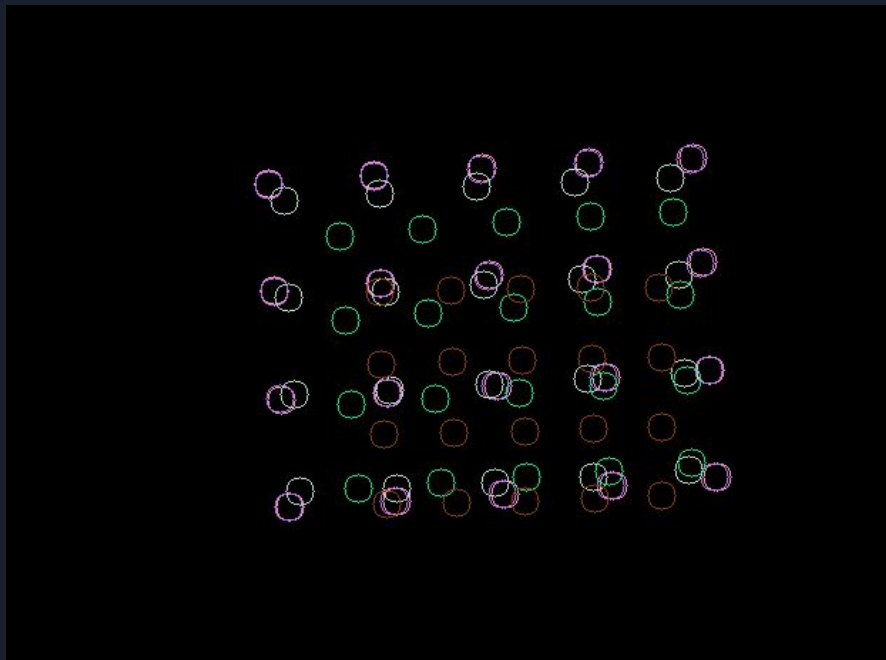
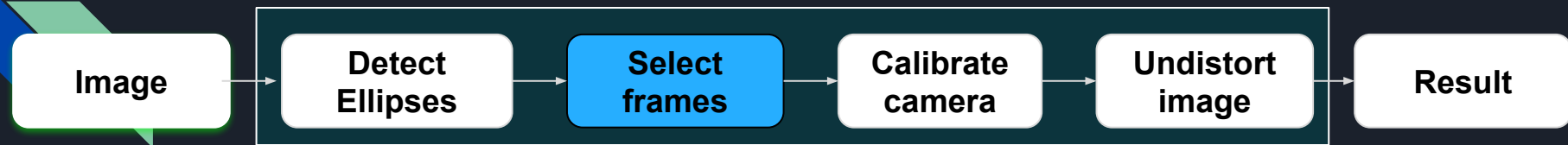
Input image



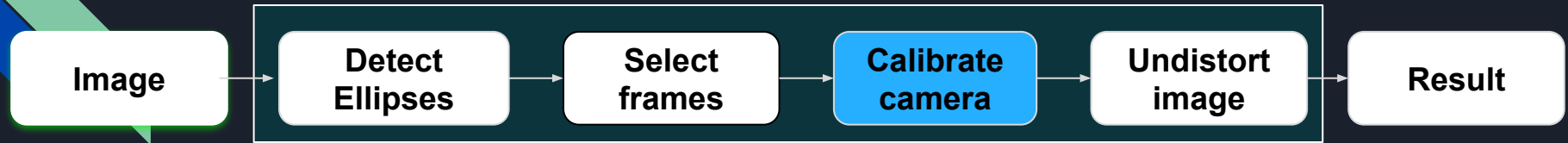
Process



Process



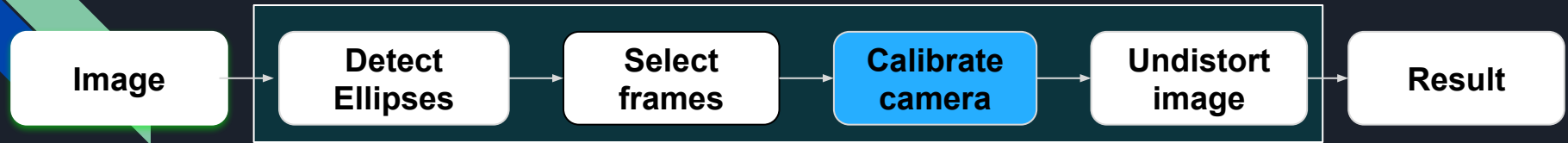
Process



Ring pattern

Parameter	Lifecam	PS3	PS3 own test
Reprojection e	0.207939	0.283131	0.15688
Focal length x	491.4405	981.5524	619.8529
Focal length y	495.4743	985.5674	623.7464
Optical center x	327.9785	321.6473	317.8602
Optical center y	161.9086	249.7668	257.8088

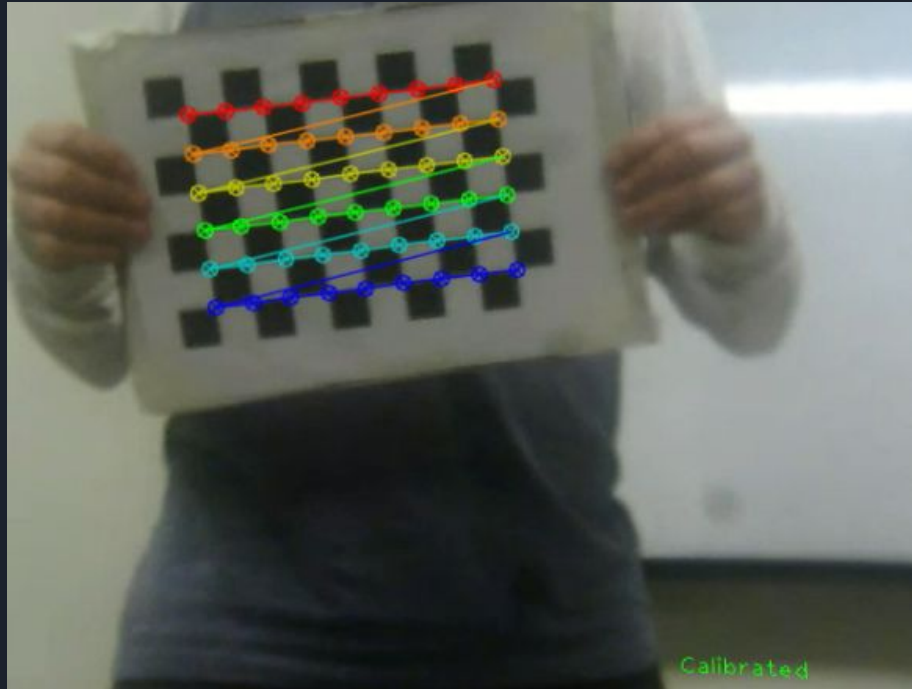
Process



Chess pattern

Parameter	Lifecam	PS3
Reprojection e	0.3059	0.3130
Focal length x	301.24	1204.97
Focal length y	301.24	1204.97
Optical center x	320	320
Optical center y	180	240

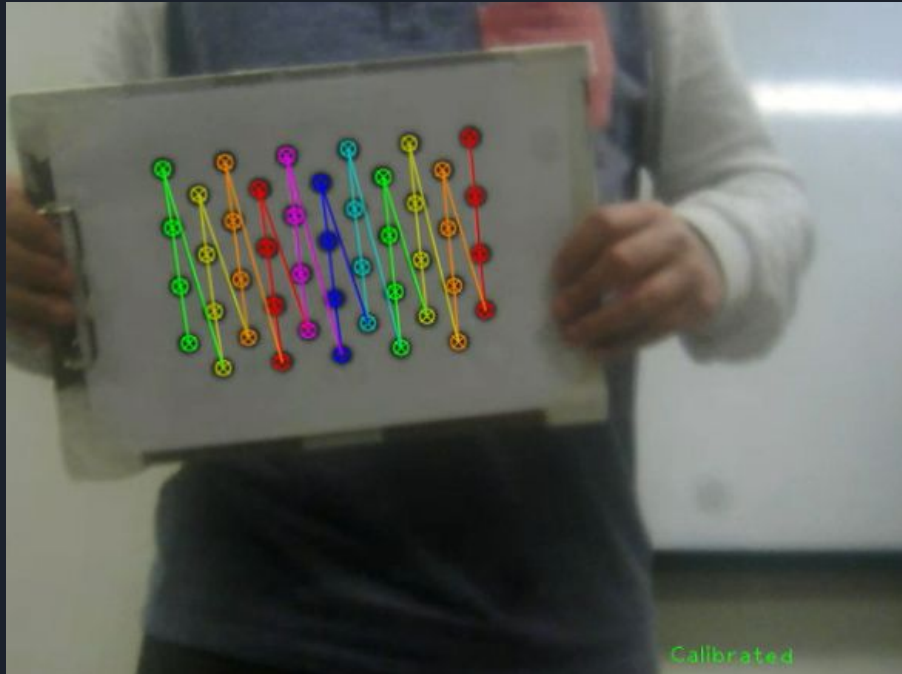
Chessboard pattern PS3



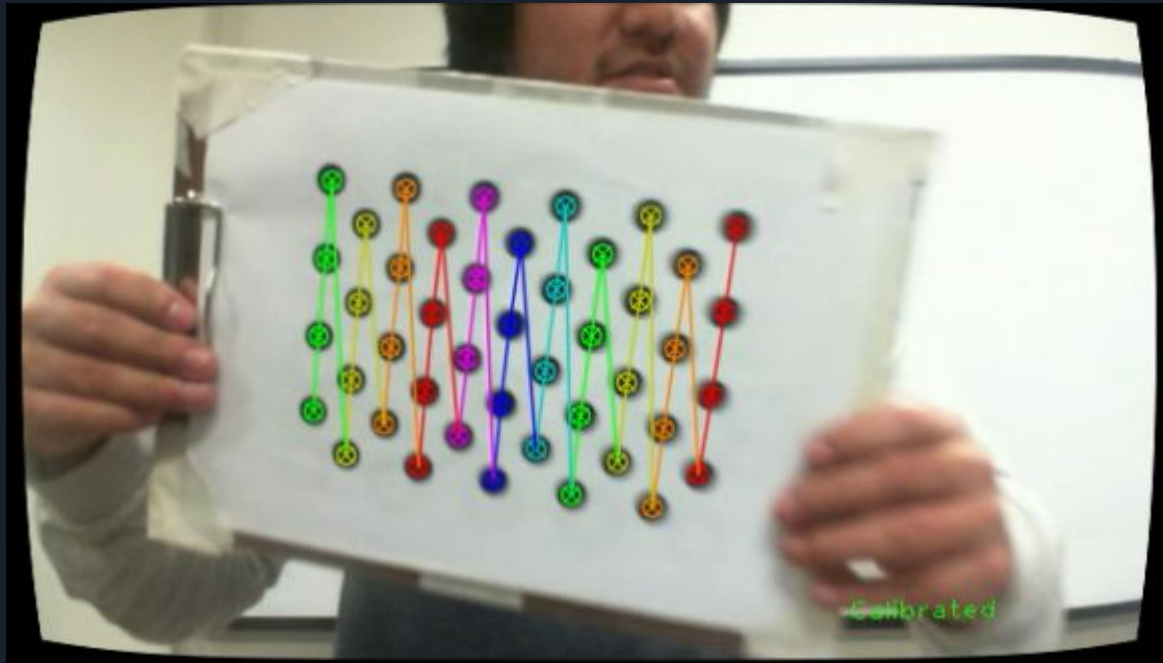
Chessboard pattern LIFECAM



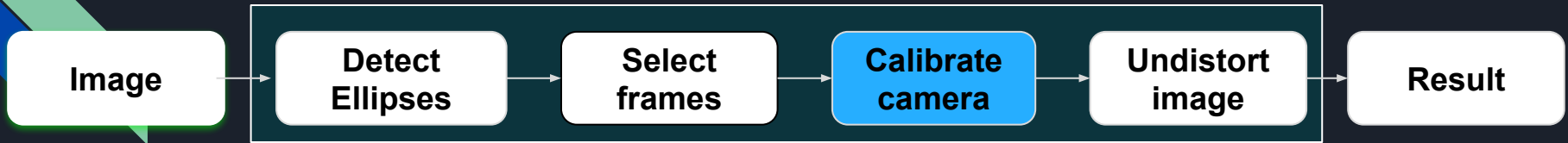
Asymmetric circles - PS3



Asymmetric circles - LIFE CAM



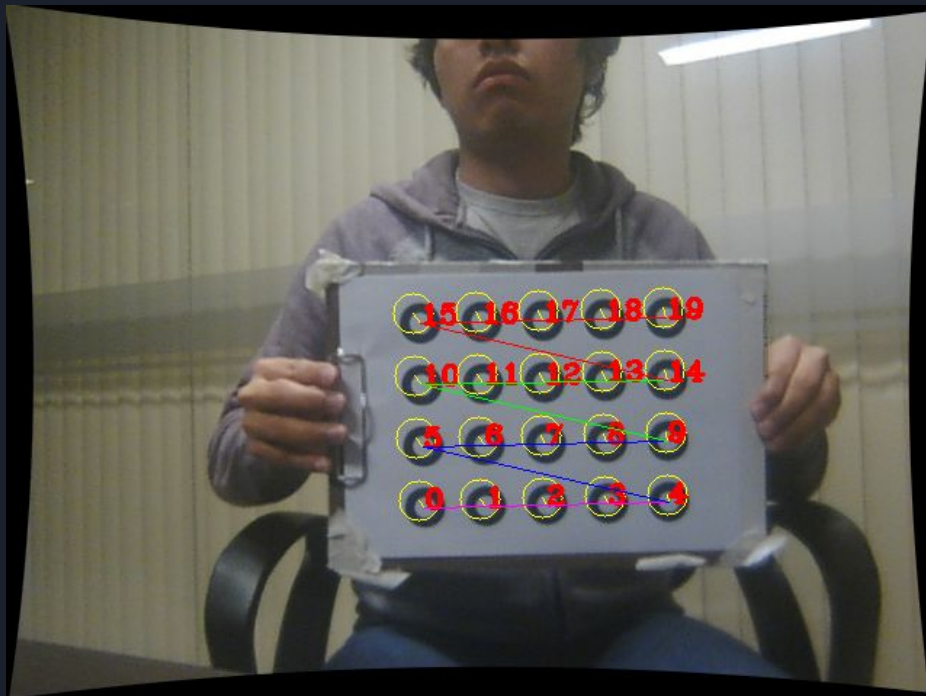
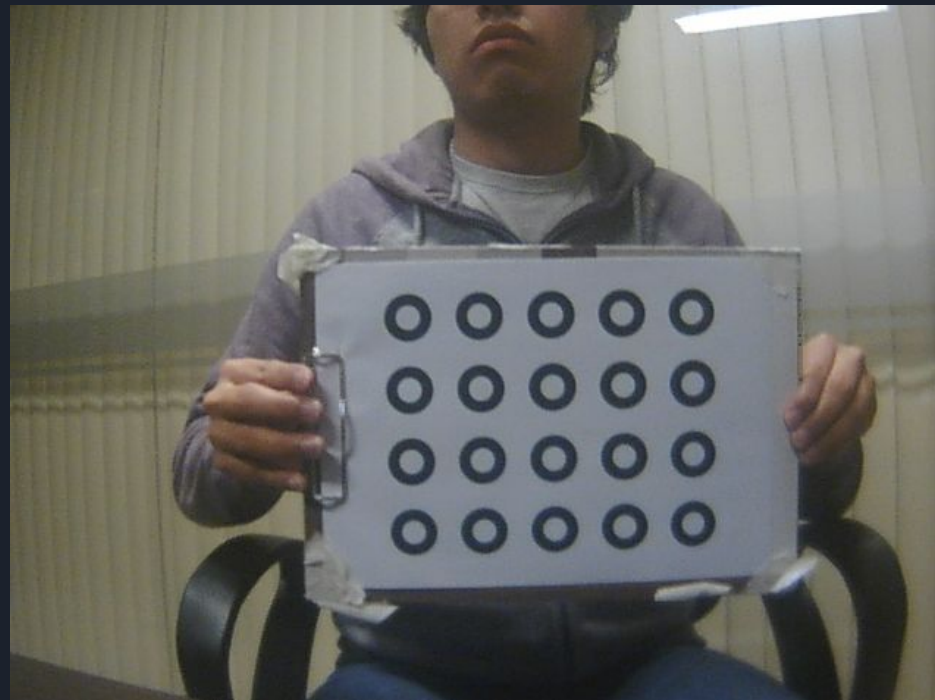
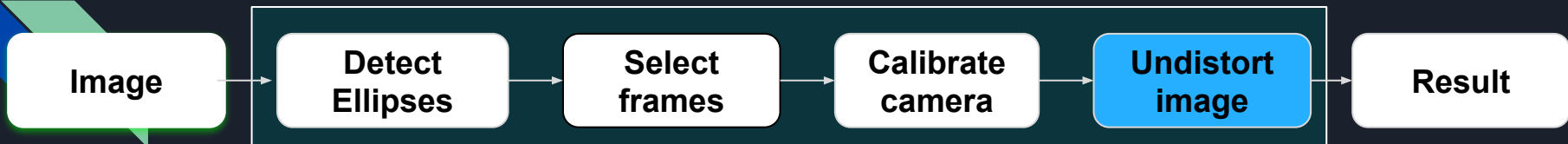
Process



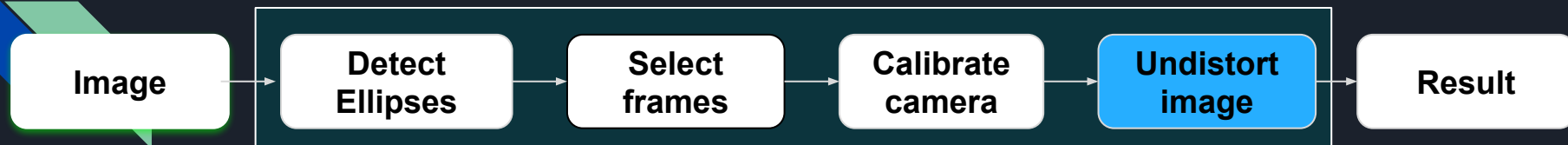
Circle pattern

Parameter	Lifecam	PS3
Reprojection e	0.3178	0.3294
Focal length x	723.61	109.897
Focal length y	723.61	109.897
Optical center x	320	320
Optical center y	180	240

Process



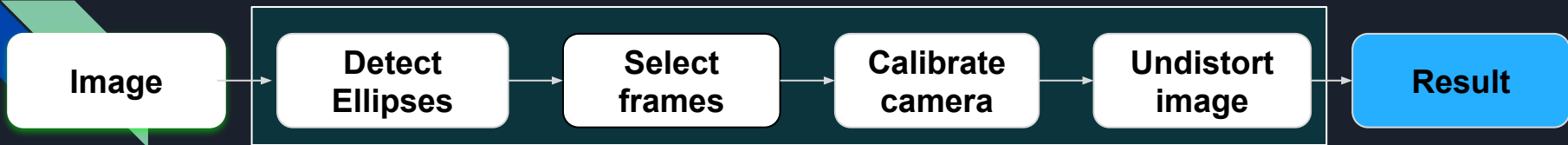
Process



error = 0.364856

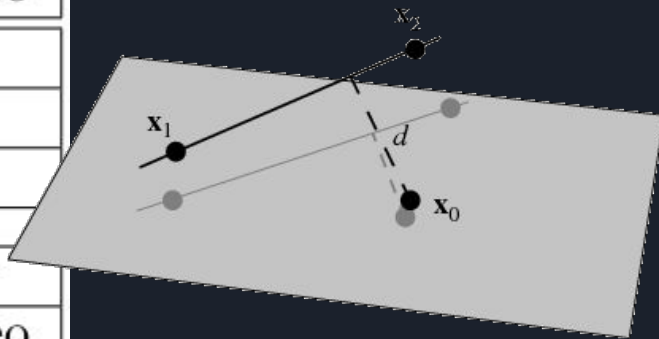


Experiments



	PS3: Average of collinearity	
Center point	Original video	Undistorted video
Average	0.2815	0.1344
Outer ellipse	0.2711	0.1383
Inner ellipse	0.3110	0.1667

	LifeCam :Average of collinearity	
Center point	Original video	Undistorted video
Average	0.1040	0.0989
Outer ellipse	0.0998	0.0980
Inner ellipse	0.1302	0.1246





Input Videos

1. Circles lifecam : <https://drive.google.com/open?id=17EQUnf-3Di3J-PxnmMP-KIY8aNb5STqA>
2. Circles ps3 : <https://drive.google.com/open?id=1pP0ll2FbwNeLDBwdDu8e28oSHiTtcBVb>
3. Chessboard ps3 : <https://drive.google.com/open?id=1G2sysbylG299x7crZLz4tAH0YVYV-htp>
4. Chessboard lifecam: https://drive.google.com/open?id=1zB15OFQVL_8y5x93QFQ66yk6Hj--ZEnV



Thanks