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 green. They are positioned diagonally, with the blue one partially covering the green one.

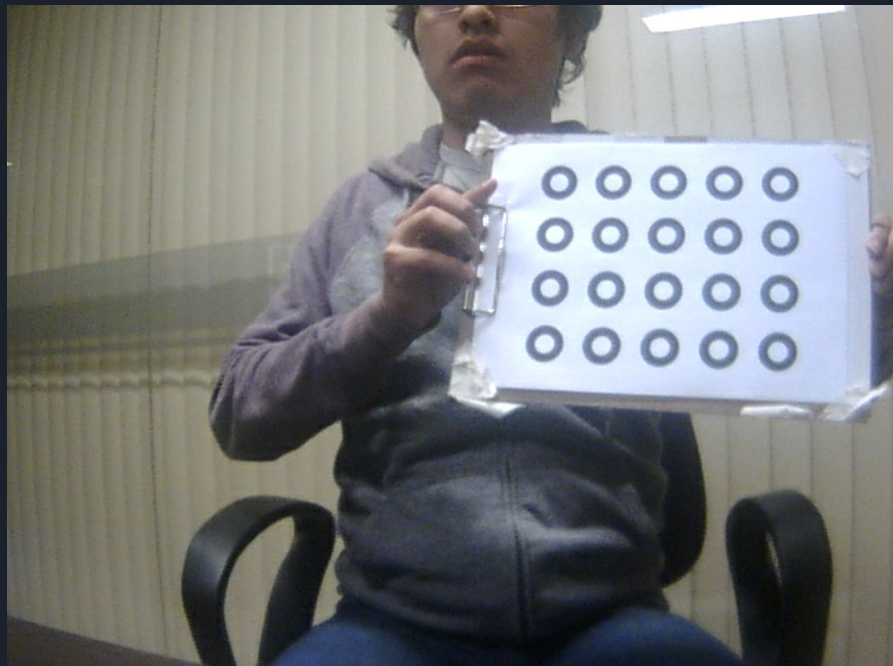
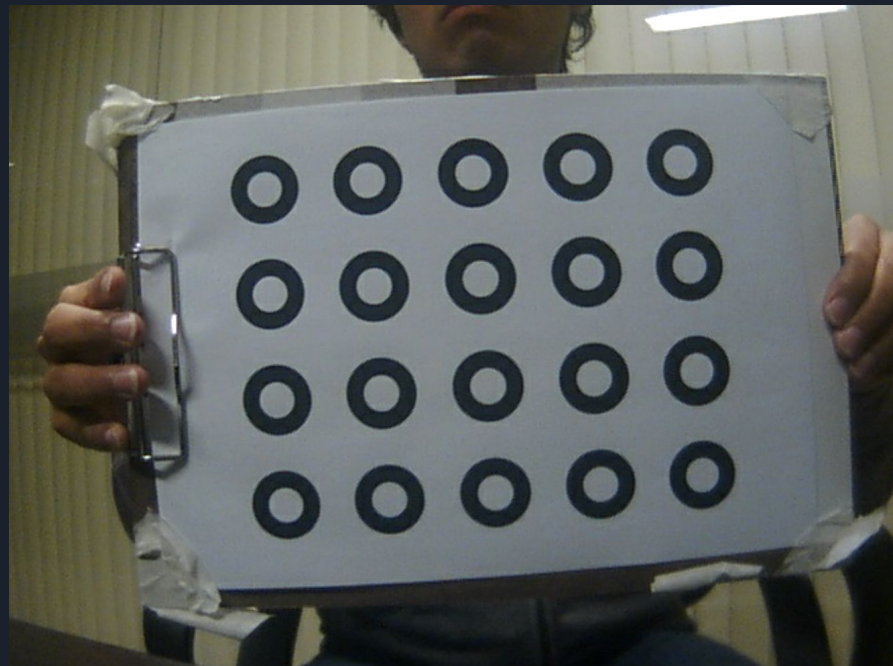
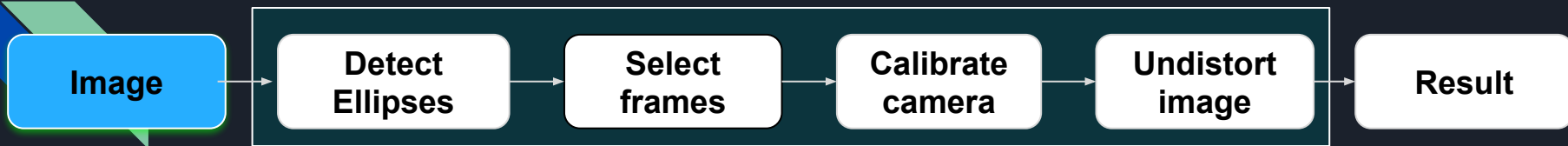
Camera calibration using adaptive segmentation and ellipse fitting

Authors:

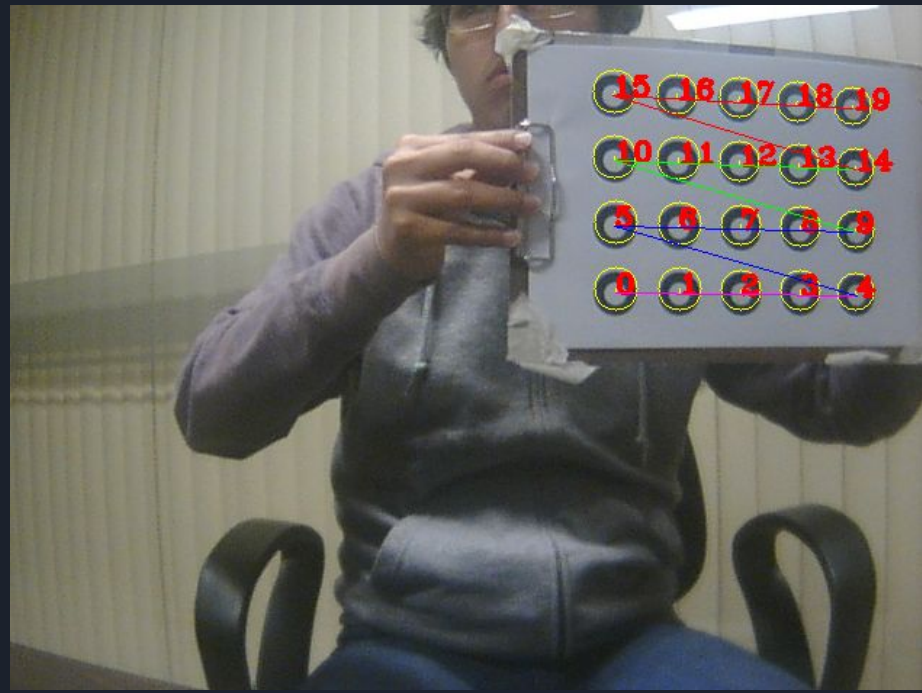
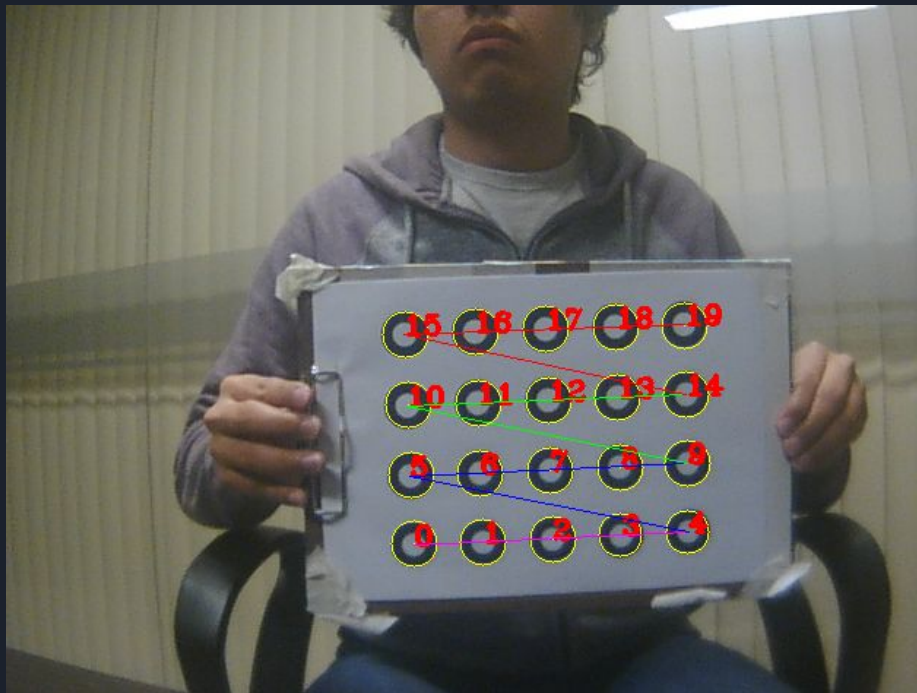
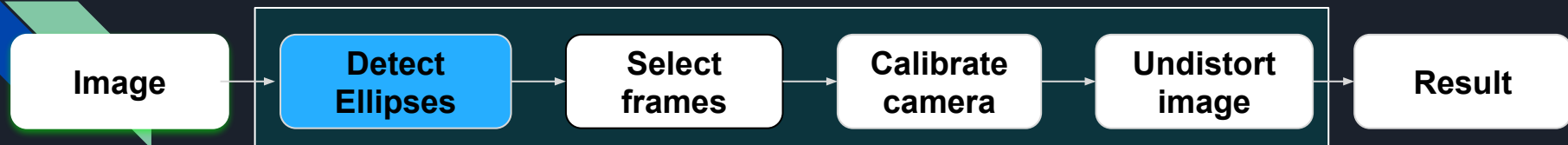
Raúl Romaní Flores

Paul Alonzo Quio Añamuro

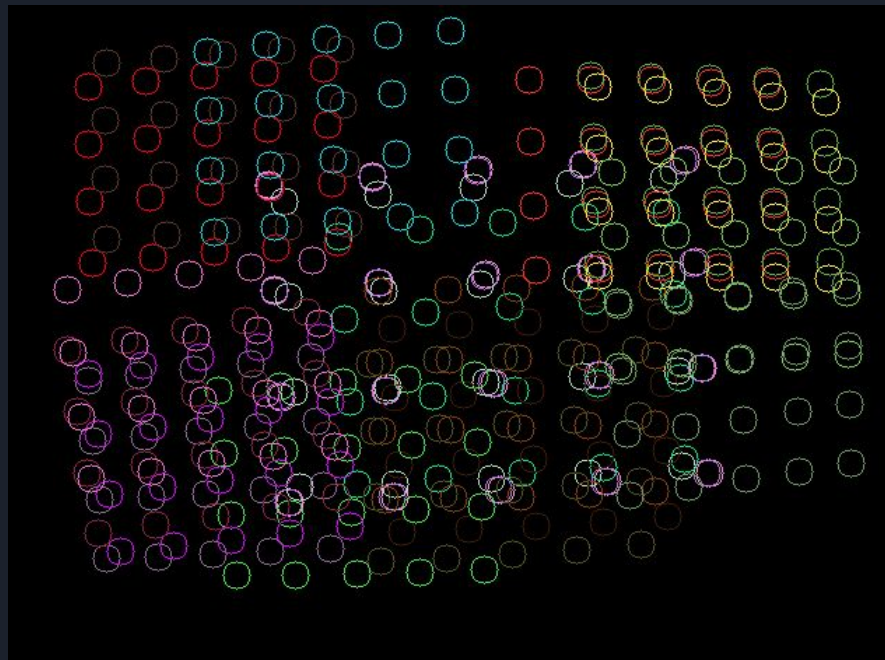
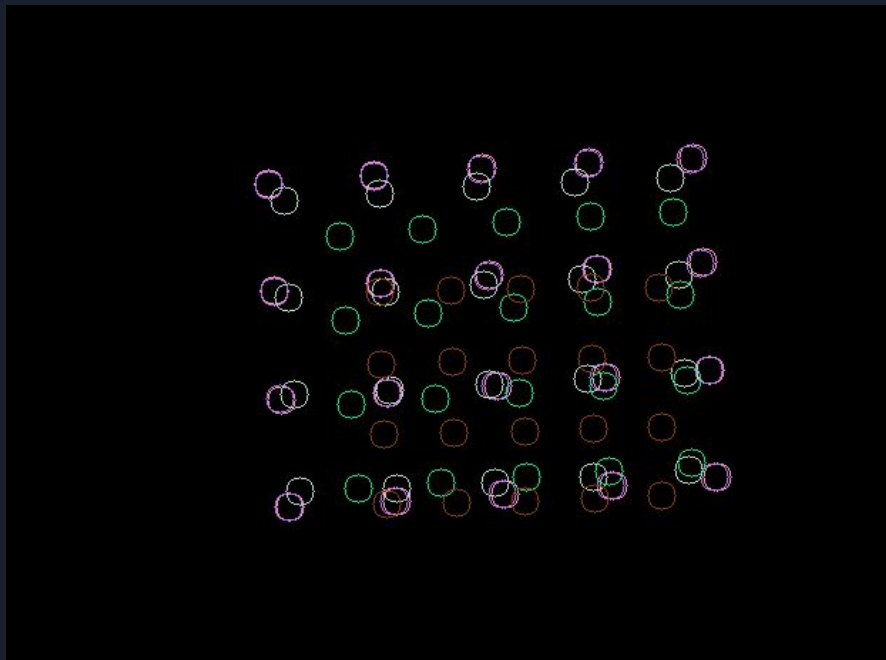
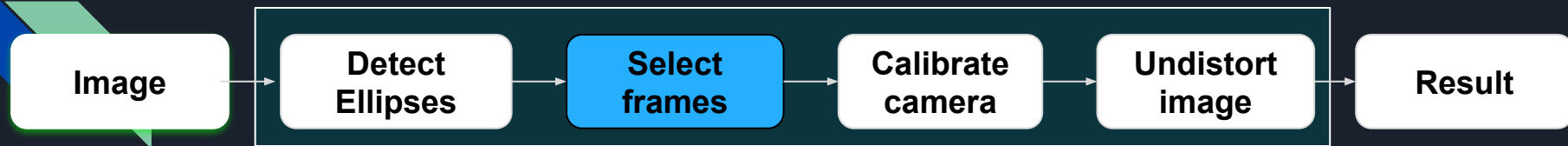
Input image



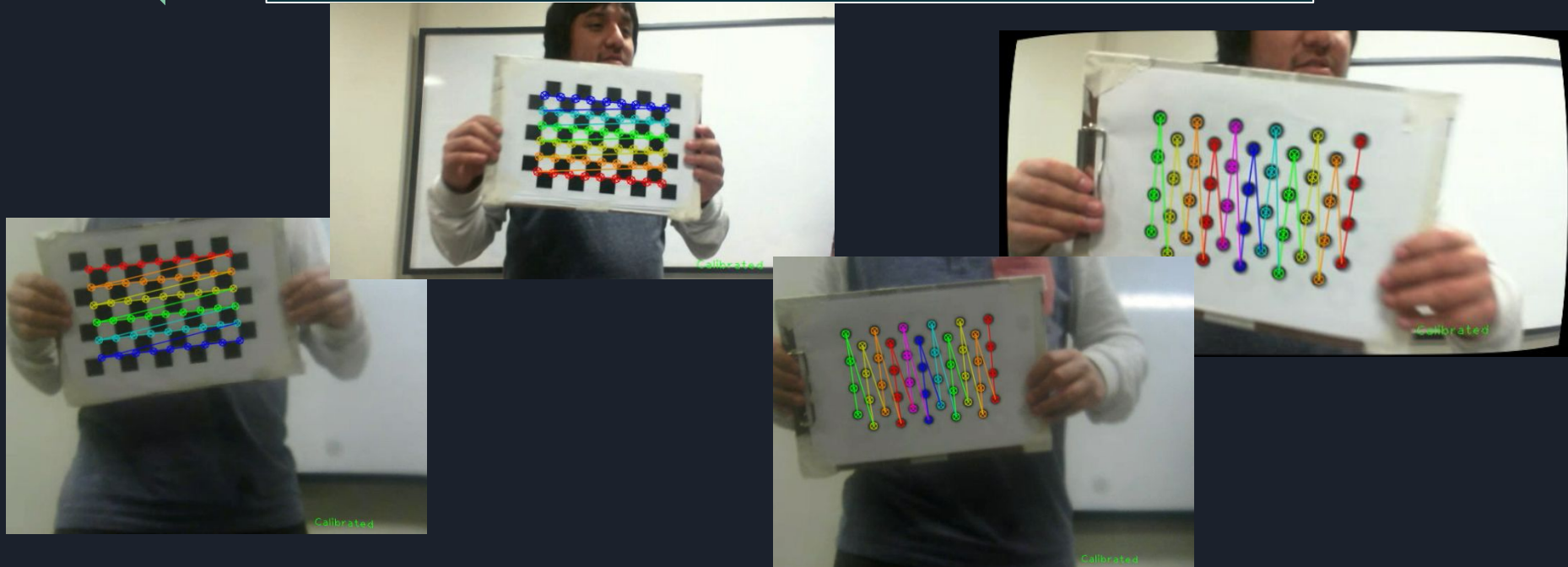
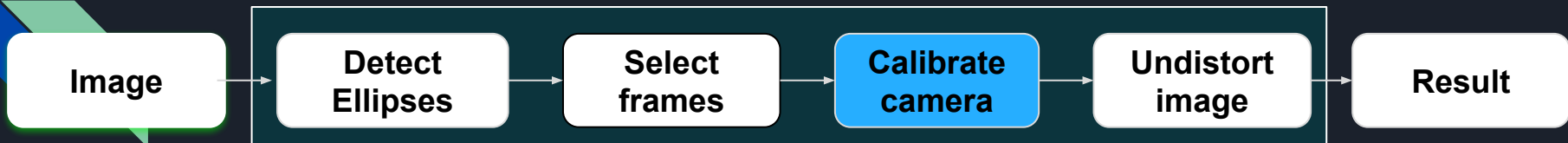
Process



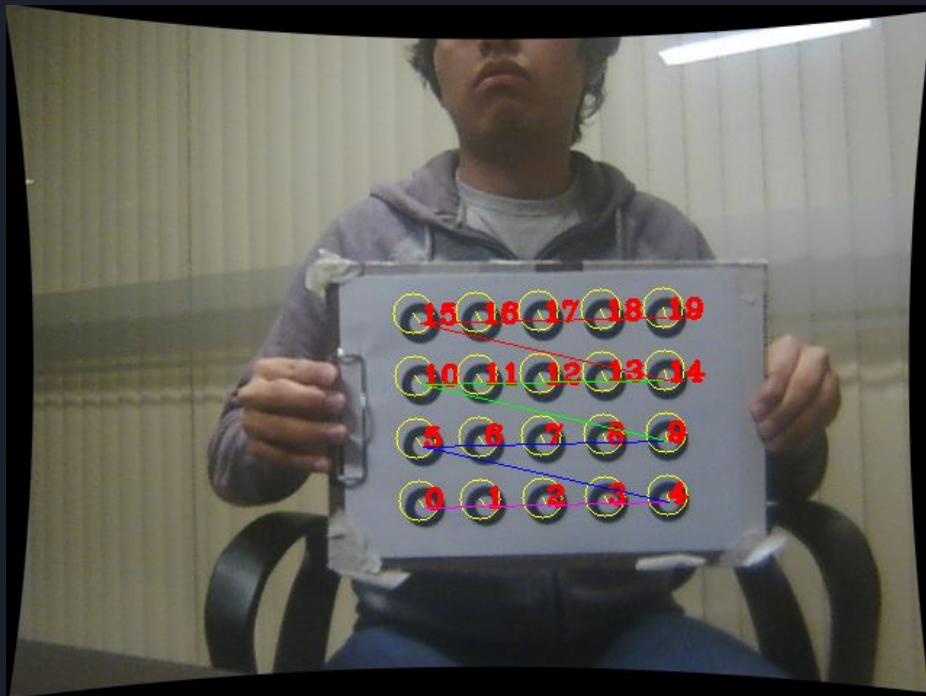
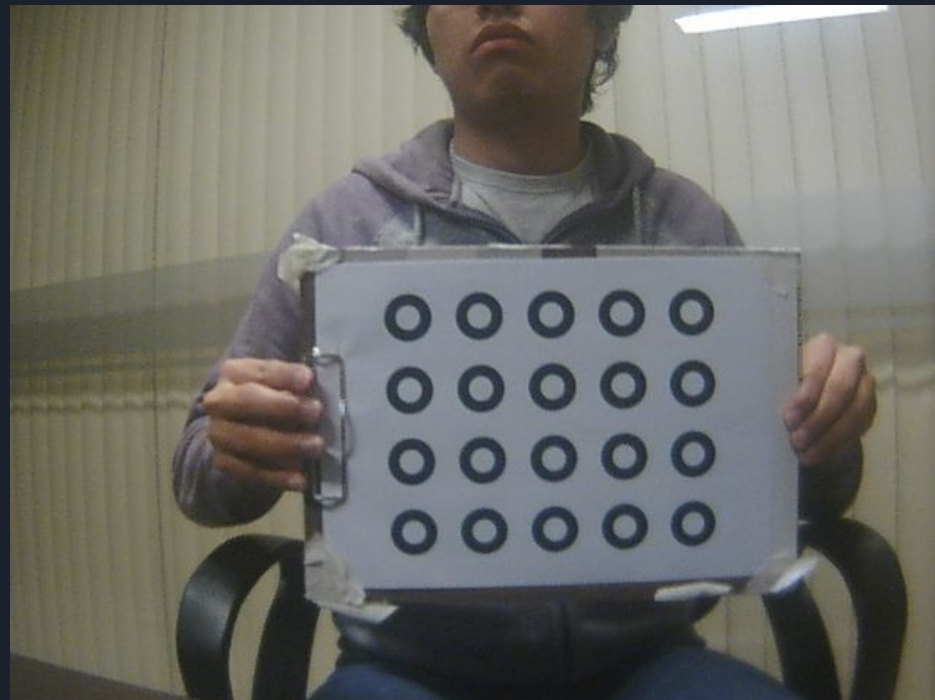
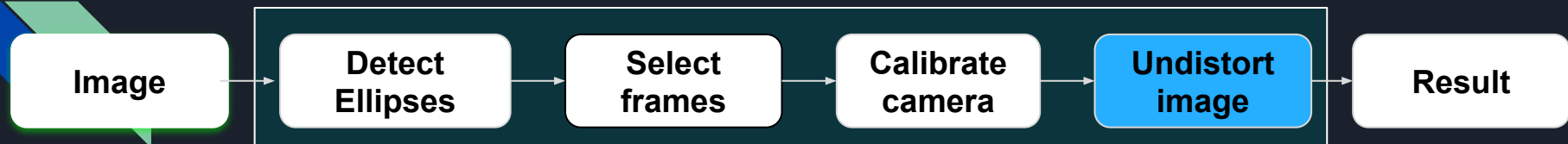
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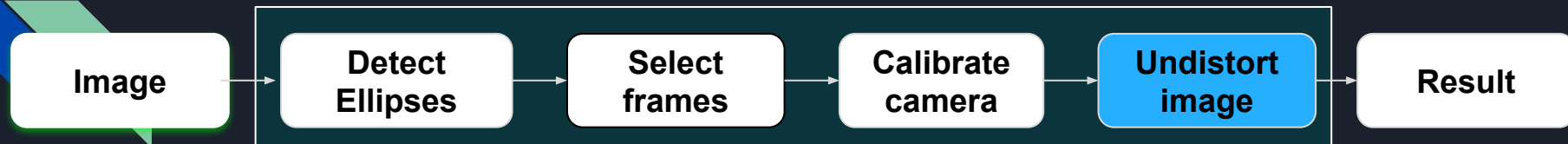
Process



Process



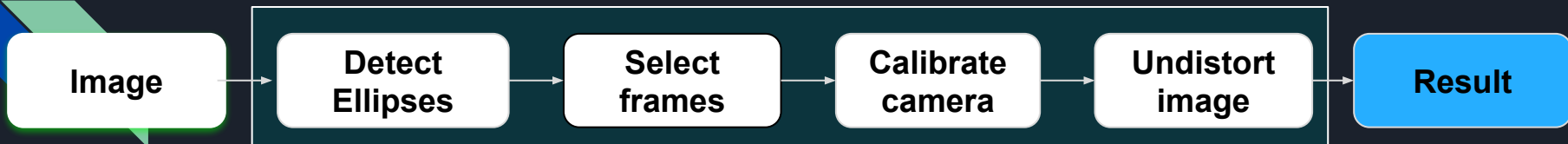
Process



error = 0.364856

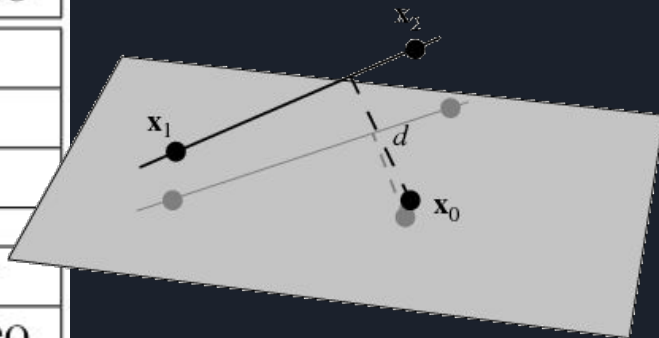


Experiments

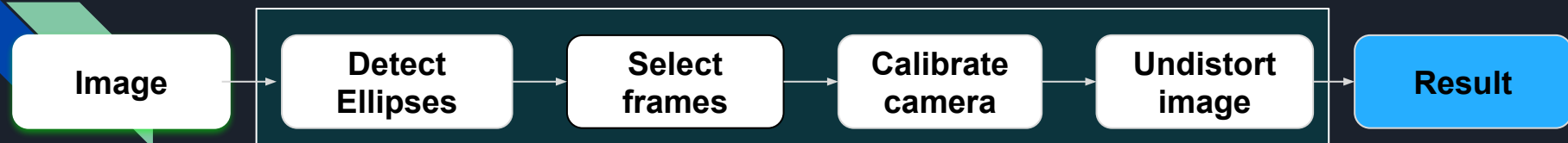


	PS3: Average of collinearity	
Center point	Original video	Undistorted video
Average	0.2815	0.1344
Outer ellipse	0.2711	0.1383
Inner ellipse	0.3110	0.1667

	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



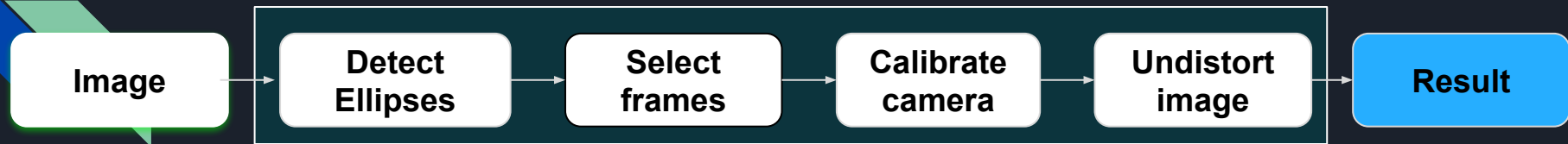
Experiments



Parameter	Chessboard	Circles	Rings
Reprojection e	0.23547	0.1250	0.1346
Focal length x	847.5653	914.8484	842.2776
Focal length y	848.2543	918.5734	845.9872
Optical center x	332.6489	325.1919	306.8028
Optical center y	249.0016	233.0003	258.6146

Table 3. Comparisons of results obtained with chessboard, circles and rings pattern, on the PS3 camera.

Experiments



Parameter	Chessboard	Circles	Rings
Reprojection e	0.8346	0.1707	0.1362
Focal length x	611.1363	637.0749	618.3848
Focal length y	612.7416	640.6737	621.9344
Optical center x	318.4211	351.7642	341.9354
Optical center y	225.0789	229.1633	231.4488

Table 2. Comparisons of results obtained with chessboard, circles and rings pattern, on the LifeCam camera.



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