Topics Covered in Application Case Studies

	Tracking Laparoscopic Tools	Hand Detection and Tracking	Locating Human Eyes and Irises	Face Detection and Recognition	Art, Photography, Image Stitching	Locating Contaminants in Cereals	Surveillance	Monitoring of Traffic Flow	Model-Based Tracking of Animals	Driver Assistance Systems	Road, Lane and Sign Detection	Locating Vehicles and Pedestrians	Vehicle Guidance in Agriculture
Affine motion models							√	√		√			
Belief networks							√	√					
Boosting				√									
Chamfer matching											√	√	
Circle and ellipse detection			√								√		
Decoupling shape and intensity									√				
Deep learning			√	√							√		
EM algorithm						√					√		
Hough transform			√										√
Hysteresis thresholding													√
Kalman filter							√	√		√			
Median-filter based analysis						√							
Morphological processing	√					√							
Occlusion reasoning							√	√		√			
Pattern recognition					√	√				√		√	
Perspective and vanishing points	√				√		√			√	√		
Principal components analysis		√		√					√				

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RANSAC	√									√	√		
Segmentation	√	√		√		√					√	√	√
Shape distortions						√							
Snake approximations and splines								√	√				
Speedup by sampling				√									
Symmetrical object detection			√							√		√	
Temporal filtering							√	√	√	√			
Tracking and particle filters							√			√			
Two- and multi-stage matching				√		√							

INFLUENCES IMPINGING UPON INTEGRATED VISION SYSTEM DESIGN