Topics Covered in Application Case Studies

	Tracking laparoscopic tools	Food inspection	Locating human irises and faces	Art, photography, image stitching	Locating contaminants in cereals	High speed cereal grain location	Surveillance	Monitoring of traffic flow	Model-based tracking of animals	Driver assistance systems	Road, lane and signdetection	Locating vehicles and pedestrians	Vehicle guidance in agriculture	Designing inspection hardware
Affine motion models							√	√		√				
Belief networks							√	√						
Chamfer matching											√	√		
Circle and ellipse detection		√	√			√					√			√
Cost–speed tradeoffs														√
Decoupling shape and intensity									√					
Hough transform		√	√										√	√
Hysteresis thresholding													√	
Kalman filter							√	√		√				
Linear feature detection					√									
Median-filter based analysis					√									
Morphological processing	√				√									
Occlusion reasoning							√	√		√				
Optimal system design		√												√
Pattern recognition		√		√	√					√		√		
Perspective and vanishing points	√			√			√			√	√			
Principal components analysis									√					
RANSAC	√									√	√			
Real-time processing		√					√	√		√				√
Selection of hardware modules		√												√
Shape distortions		√			√									
Snake approximations and splines								√	√					
Speedup by sampling		√				√								√
Symmetrical object detection			√							√		√		
Temporal filtering							√	√	√	√				
Tracking and particle filters							√			√				
Two-stage matching					√									√