

Contents

1	Introduction	1
Part I Statistics and Estimation		
2	Probability Theory and Random Variables	21
3	Testing	61
4	Estimation	75
Part II Geometry		
5	Homogeneous Representations of Points, Lines and Planes	195
6	Transformations	247
7	Geometric Operations	291
8	Rotations	325
9	Oriented Projective Geometry	343
10	Reasoning with Uncertain Geometric Entities	359
Part III Orientation and Reconstruction		
11	Overview	441
12	Geometry and Orientation of the Single Image	455
13	Geometry and Orientation of the Image Pair	547
14	Geometry and Orientation of the Image Triplet	621
15	Bundle Adjustment	643
16	Surface Reconstruction	727
	Appendix: Basics and Useful Relations from Linear Algebra	767