Yu-Jin Zhang

3-D Computer Vision

Principles, Algorithms and Applications

- Focuses on advanced computer vision and image understanding technologies
- Offers extensive content and intuitive explanations
- Includes a wealth of pictures, real-world examples and self-test questions

This textbook offers advanced content on computer vision (basic content can be found in its prerequisite textbook, "2D Computer Vision: Principles, Algorithms and Applications"), including the basic principles, typical methods and practical techniques. It is intended for graduate courses on related topics, e.g. Computer Vision, 3-D Computer Vision, Graphics, Artificial Intelligence, etc. The book is mainly based on my lecture notes for several undergraduate and graduate classes I have offered over the past several years, while a number of topics stem from my research publications co-authored with my students. This book takes into account the needs of learners with various professional backgrounds, as well as those of self-learners. Furthermore, it can be used as a reference guide for practitioners and professionals in related fields. To aid in comprehension, the book includes a wealth of self-test questions (with hints and answers). On the one hand, these questions help teachers to carry out online teaching and interact with students during lectures; on the other, self-learners can use them to assess whether they have grasped the key content.

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