Three-dimensional Machine Vision

By Takeo Kanade

Springer-Verlag New York Inc., United States, 2011. Paperback. Book Condition: New. 240 x 160 mm. Language: English . Brand New Book ***** Print on Demand *****.Arobotmustperceivethethree-dimensionalworldifitistobeeffe ctive there. Yet recovering 3-D information from projected images is difficult, and still remains thesubjectofbasic research. Alternatively, onecan use sensorsthatcanprovidethree-dimensionalrangeinformationdirectly. The technique ofprojecting light-stripesstartedto be used in industrialobject recognition systems asearly asthe 1970s,andtime-of-flight laser-scanning range finders became available for outdoor mobile robotnavigation in the mid-eighties. Once range data are obtained, a vision system must still describe the scene in terms of 3-D primitives such as edges, surfaces, and volumes, and recognize objeCts of interest. Today, the art of sensing, extractingfeatures, and recognizing objectsbymeans ofthree-dimensional rangedataisoneofthemostexcitingresearchareasincomputervision. Three-Dimensional Machine Vision is a collection of papers dealing withthree-dimensionalrangedata. Theauthorsarepioneeringresearchers: some are founders and others are bringingnew excitements in thefield. I have tried to select milestone papers, and my goalhas beento make this bookareferenceworkforresearchersinthree-dimensionalvision. The book is organized into four parts: 3-D Sensors, 3-D Feature Extractions,ObjectRecognitionAlgorithms,andSystemsandApplications. Part I includes four papers which describe the development of unique, capable 3-D range sensors, as well as discussions of optical, geometrical, electronic, and computational issues. Mundy and Porter describe asensor systembasedonstructuredilluminationforinspectingmetalliccastings. In

Reviews

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A must buy book if you need to adding benefit. Of course, it is actually perform, still an interesting and amazing literature. I am delighted to explain how this is basically the best book i actually have read through during my individual life and may be he best book for at any time.
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