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Nota di contenuto	Introduction -- RelatedWork -- PassiveSceneRecognition -- ActiveSceneRecognition -- Evaluation -- Summary -- Appendix. .
Sommario/riassunto	This book focuses on enabling mobile robots to recognize scenes in indoor environments, in order to allow them to determine which actions are appropriate at which points in time. In concrete terms, future robots will have to solve the classification problem represented by scene recognition sufficiently well for them to act independently in human-centered environments. To achieve accurate yet versatile indoor scene recognition, the book presents a hierarchical data structure for scenes – the Implicit Shape Model trees. Further, it also provides training and recognition algorithms for these trees. In general, entire indoor scenes cannot be perceived from a single point of view. To address this problem the authors introduce Active Scene Recognition (ASR), a concept that embeds canonical scene recognition in a decision-making system that selects camera views for a mobile robot

to drive to so that it can find objects not yet localized. The authors formalize the automatic selection of cameraviews as a Next-Best-View (NBV) problem to which they contribute an algorithmic solution, which focuses on realistic problem modeling while maintaining its computational efficiency. Lastly, the book introduces a method for predicting the poses of objects to be searched, establishing the otherwise missing link between scene recognition and NBV estimation.