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## Door recognition in cluttered building interiors using imagery and lidar data

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**Abstract.** Building indoors reconstruction is an active research topic due to the importance of the wide range of applications to which they can be subjected, from architecture and furniture design, to movies and video games editing, or even crime scene investigation. Among the constructive elements defining the inside of a building, doors are important entities in applications like routing and navigation, and their automated recognition is advantageous e.g. in case of large multi-storey buildings with many office rooms. The inherent complexity of the automation of the recognition process is increased by the presence of clutter and occlusions, difficult to avoid in indoor scenes. In this work, we present a pipeline of techniques used for the reconstruction and interpretation of building interiors using information acquired in the form of point clouds and images. The methodology goes in depth with door detection and labelling as either *opened*, *closed* or *furniture* (*false positive*)

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