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Assistive robots are categorized as robots that share their area of work and interact with humans. Their main goals are to help, assist, and monitor humans, especially people with disabilities. To achieve these goals, it is necessary that these robots possess a series of characteristics, namely the abilities to perceive their environment from their sensors and act consequently, to interact with people in a multimodal manner, and to navigate and make decisions autonomously. This complexity demands computationally expensive algorithms to be performed in real time. The advent of high-end embedded processors has enabled several such algorithms to be processed concurrently and in real time. All these capabilities involve, to a greater or less extent, the use of machine learning techniques. In particular, in the last few years, new deep learning techniques have enabled a very important qualitative leap in different problems related to perception, navigation, and human understanding. In this Special Issue, several works are presented involving the use of machine learning techniques for assistive technologies, in particular for assistive robots.