Record Nr. UNINA9910688391403321 Titolo Cognitive Robotics and Adaptive Behaviors / / Maki K. Habib, editor London:,:IntechOpen,,2022 Pubbl/distr/stampa Descrizione fisica 1 online resource (134 pages) Disciplina 363.700285 Soggetti Artificial intelligence - Engineering applications Autonomous robots Lingua di pubblicazione Inglese **Formato** Materiale a stampa Monografia Livello bibliografico 1. The Neo-Mechanistic Model of Human Cognitive Computation and Nota di contenuto Its Major Challengesh 46 -- 2. Learning Robotic Ultrasound Skills from Human Demonstrations 60 -- 3. Skill Acquisition for Resource-Constrained Mobile Robots through Continuous Exploration 53 -- 4. An Episodic-Procedural Semantic Memory Model for Continuous Topological Sensorimotor Map Building 50 -- 5. A Robotics-Based Machine Learning Approach for Fall Detection of People 25. The development and use of robotics is affecting all aspects of modern Sommario/riassunto life. There is a demand not only for robots that can move, interact, learn, and act in real-time dynamic and unconstrained environments but also for those that can interact smoothly and safely with the actions and movements of people within the same environments. In addition to managing complex motor coordination, these robots also require the ability to acquire and represent knowledge, deal with uncertainty at different operational levels, learn, reason, adapt, and have the autonomy to make intelligent decisions and act upon them. They should be able to learn from interaction, anticipate the outcomes of actions, acquire experiences and use them as required for future activities. Cognitive robotics is the interdisciplinary term used to describe robots that merge all these features and capabilities in their

hardware and software architectures.