



Security Robot System for Intelligent Building

By Mustafa Zuhaer Nayef Al-Dabagh

LAP Lambert Academic Publishing Jun 2014, 2014. Taschenbuch. Book Condition: Neu. 220x150x7 mm. This item is printed on demand - Print on Demand Neuware - At the current decades, security robot has become one of the important researches in the many field. A number of robots have been designed to provide safety, convenience, efficiency and entertainment for life in the 21st century . This book focuses on design and implementation of mobile robot with three subsystem which are obstacle avoidance, face recognition and detection leakage of combustible gases. In the first subsystem, an implementation of artificial neural network on field programmable analog array (FPAA) has been used to control the motion of the robot. A combination of principle component analysis (PCA) and linear discriminate analysis (LDA) feature extraction algorithms with support vector machine (SVM) classifier is used in the second schema. The third subsystem uses MQ4 sensor with addition circuit to detect the leakage of combustible gases. Finally, the MATLAB environment is used to implement the proposed subsystems and the experimental results demonstrate the efficiency and robustness of these subsystems. 120 pp. Englisch.



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