URN etd-0407109-183706-408
Author Jen-Chung Shieh
Author's Email Address No Public.
Statistics This thesis had been viewed 39 times. Download 0 times.
Department
Year 2003
Semester 2
Degree Master
Type of Document Master's Thesis
Language zh-TW.Big5 Chinese
Title Design and Implementation of Intelligent Hospital Service Robot
Date of Defense 0000-00-00
Page Count 69

Keyword
Intelligent Hospital Service Robot
Information Decision Making System
Path Planning
Digital Image Processing
Collision-Free Control
Integrated Fuzzy Control System

Abstract
This thesis presents the design concepts of an intelligent hospital service robot (IHSR). The objective of the IHSR is not only to save human resources but also to improve the quality of hospital service. Since the environment map of hospital can be regarded as known, the navigation path planning of the IHSR will be considered from the service tasks of the IHSR and the distribution status of patients in hospital. For obstacle avoidance, the IHSR mounts a CCD camera and attachments to determine the relative directions of front obstacles by image processing techniques. There are nine ultrasonic sensors installed on the front plane of the IHSR to detect the distance between the IHSR and an obstacle in every direction. An integrated fuzzy controller is proposed to be the collision-free navigation control system. In which, there are two fuzzy controllers designed for objective navigation and collision-free control respectively. Simulation and experiment results show that the IHSR is indeed able to accomplish the self-mobile navigation control within a hospital environment.
Advisory Committee Ming-Yuan Shieh - advisor

Files No Any Full Text File.
Date of Submission 2004-07-12