D-FP07

Computer Vision and Image Processing 4

13:00-15:00
Room : 4232

Chair : Lee Jang Myung (Pusan National Univ.)
Co-Chair : Lee Byung Ju (Hanyang Univ.)

13:00 – 13:20　　　　　　　　　　　**D-FP07-1**

Mobile Robot Navigation in Indoor Environments using Object Recognition

Lee Won Hee, Park Min Gyu, Lee Min Cheul (Pusan National Univ.)
and Kim Dong Soo(KIMM)

Navigation in unknown environments, where the robot has no exact geometric information in advance, requires the robot to obtain the destination positions without a map. The utilization of model-based object recognition would be a solution, where the robot can estimate the destination positions from geometric relationships between the recognized objects and the robot. This paper presents a robot system for this kind of navigation, in which the robot navigates itself to the room designated by room number. Object recognition technique is used to find a door and character recognition is utilized to interpret the room number on the number plate near the door and to determine whether it is the destination or not. The robot has …

13:20 – 13:40　　　　　　　　　　　**D-FP07-2**

The Measurement of Stewart Platform applied to the Tele - Operated Vehicle System by Forward Kinematics

Lee K-Y, Choi J-H, Seo B-W, Kim J-H
(The Graduate School of Automotive Engineering, Kookmin University)

this paper, the integration of driving simulator and unmanned vehicle by means of new concept for better performance through a tele-operated system is suggested. But autonomous system is one of the most difficult research topics from the point of view of several constrains on mobility, speed of vehicle and lack of environmental information. In these days, however, many innovations on the vehicle provide the appropriate automatic control in vehicle subsystem for reducing human error. This tendency is toward to the unmanned vehicle or the tele-operated vehicle ultimately. This paper describes the motion system…

13:40 – 14:00　　　　　　　　　　　**D-FP07-3**

Navigation of a Mobile Robot　Using the Hand Gesture Recognition

Kim Il-Myung, Kim Wan-Cheol, Yun Jae-Mu, Jin Tae-Seok and Lee Jang-Myung
(Pusan National University)

A new method to govern the navigation of a mobile robot is proposed based on the following two procedures: one is to achieve vision information by using a 2 D-O-F camera as a communicating medium between a man and a mobile robot and the other is to analyze and to behave according to the recognized hand gesture commands. In the previous researches, mobile robots are passively to move through landmarks, beacons, etc. To incorporate various changes of situation, a new control system manages the dynamical navigation of a mobile robot. Moreover, without any generally used expensive equipments or complex algorithms for hand gesture recognition, a reliable hand gesture recognition system is efficiently implemented to convey the human commands to the mobile robot with a few constraints.

14:00 – 14:20　　　　　　　　　　　**D-FP07-4**

Development of Realtime Integrated Monitoring System in Product lines and Its Application

Kim Sang Bong, Kim Suk Yoel, Park Soung Jea, Lee Young Hwan
(Pukyong National University) and Kim Soung Min (KPS Co.)

Recently, researches on CIM in product lines of industrial plant are widely progressed, automation of working environment with modernization of product equipments is realized and also, installation of integrated control system based on computer is activated. Since the CIM system is basically developed by using computer, there are severa l complicated problems such as design problem of hardware interface between computer and many product machines with individual special functions, software development problem with realtime data process and multi communication functions for realtime data monitoring and control of product machines. This paper shows the development results for a single board type of microcontroller and a monitoring software based on realtime processing database system…