

# FM01

## Poster Session

09:00 – 11:00

Room : base 2nd Floor-Zillertal

Chair1 : Hie sik Kim ( Univ. of Seoul, Korea )

Chair2 : Tae-Kyu Kwon ( Chonbuk Nat'l Univ., Korea )

FM01-25

### Development of Pipe-Inspection System Using Computer Vision

Chan-ho Park, Byungryoung Lee, Soonyoung Yang, Kyungkwan Ahn(Ulsan Univ., KOREA), Hyunog Oh(Boogook Industries Co., KOREA)

In this paper, a computer-vision based pipe-inspection algorithm is developed. The algorithm uses the modified Hough transformation and a line-scanning approach to identify the edge line and radius of the pipe image, from which the eccentricity and dimension of the pipe-end is calculated. Line and circle detection was performed using Laplacian operator with input image which are acquired from the front and side cameras. In order to minimize the memory usage and the processing time, a clustering method with the modified Hough transformation for line detection. The dimension of inner and outer radius of pipe is calculated by proposed line-scanning method. The method scans several lines along t...

FM01-26

### Recognition of Patterns and Marks on Monitor Glass Panel

In-Mo Ahn(Masan College, KOREA), Dong-Joong Kang(Dongmyong Information Univ., KOREA), Kee-Sang Lee(Dankook Univ., KOREA)

Contents 1

In this paper a machine vision system for recognizing and classifying the patterns and marks engraved by die molding or laser marking on glass panel of computer monitor is suggested and evaluated experimentally. The vision system is equipped with a neural network based pattern classifier and searching process based on normalized grayscale correlation and adaptive binarization, which is applicable to the cases in which the segmentation of the pattern area from background using the ordinary blob coloring technique is quite difficult. Inspection process is accomplished via the way of NGC hypothesis and ANN verification. The proposed pattern recognition system is composed of three ...

FM01-27

### Detection and Tracking of Moving Objects using Correlation Match Method and Artificial Neural Network

Sangwoo Hong, Minjung Lee, Youngkiu Choi(Pusan Nat'l Univ., KOREA)

1. Introduction
2. Detection and Tracking of Moving Objects
3. Objects Tracking and Experiment
4. Conclusion

FM01-28

### Tracking Robot Control of 2D Moving Target by a Robot Vision

Dong Hwan Kim, Byoung-Joon Jeon, Young-Ho Hong(Tech. Seoul Nat'l Univ., KOREA)

A two-dimensional moving target is necessarily captured by a 5 dof robot system using a robot vision technique. Here, a robot vision system with a visual skill so that it can take information for a moving target or object, specially two dimensionally moving, is introduced and its algorithm and control strategy are presented associated with it. The tracking algorithm is proposed and its performance is verified by experiment. The camera first captures the object, then it captures again after certain second. The position difference generates the horizontal and vertical velocities of the moving target, hence the final destination is estimated at gripping line. At the same time, the robot s...

FM01-29

### A object tracking based robot manipulator built on fast stereo vision

hua Huang, sangchul Won(POSTECH, KOREA)

- 3-D object tracking framework
- Using fast stereo vision system for range image
- Using CONDENSATION algorithm to tracking object
- For recognizing object, superquadrics model is used
- Our target object is like coils in steel works

FM01-30

### A real-time Universal inside parking system : by Applying 3D-scene Interpretation and Motion Analysis

Changheun Lee (Dong-A Univ., KOREA), Doehyon Ahn(Pukyung Nat'l Univ., KOREA)

- Contents 1 Introduction
- Contents 2 The system implementation
- Contents 3 low level image processing
- Contents 4 scene sequence interpretation
- Contents 5 Implementation experimental result