Computer Vision and Image Processing 1

08:30-10:30   **Chair : Seong-Cheol Lee (Chonbuk National Univ.)**
Room : 4231   **Co-Chair : Kang E-Sok (Chungnam National Univ.)**

08:30 – 08:50   **D -TA06-1**

Recognizing Method of Foot Characteristics by Pressure Image Analysis

Hwang Yong Bae, Yoon Sang-Cheun and Lee Soon-Geul
(Kyunghee National Univ.)

Foot, as a supporting base of human body, is very important and has essential role during standing and walking those are our everyday physical movements. So lots of researches about the foot have been done for clinical purpose and ergonomic needs. Most of those researches are related to pressure distribution between the soles of the feet. Usually force plate or pressure sensor is used to obtain proper characteristic data from foot. But these expensive devices are not easy to attach to the sole of the subjects and it is unnatural for the subject to move with these devices. As one of method of measuring foot, gridded sole image is used. But the obtained image is very hard to be recognizable because of the image is composed with the…

08:50 – 09:10   **D -TA06-2**

Face Recognition Using Feature Information and Neural Network

Chung Jae Mo, Bae Hyeon and Kim Sungshin
(Pusan National Univ.)

The statistical analysis of the feature extraction and the neural networks are proposed to recognize a human face. In the preprocessing step, the normalized skin color map with Gaussian functions is employed to extract the region offace candidate. The feature information in the region of face candidate is used to detect a face region. In the recognition step, as a tested, the 360 images of 30 persons are trained by the backpropagation algorithm. The images of each person are obtained from the various direction, pose, and facial expression. Input variables of the neural networks are the feature information that comes from the eigenface spaces. The simulation results of 30 persons show that the proposed method yields high recognition rates.

09:10 – 09:30   **D -TA06-3**

Real-Time Facial Recognition Using the Geometric Informations

Bae Hyoungjin and Kuc Taeyong
(Sungkyunkwan Univ.)

The implementation of human-like robot has been advanced in various parts such as mechanic arms, legs, and applications of five senses. The vision applications have been developed in several decades and especially the face recognition have become a prominent issue. In addition, the development of computer systems makes it possible to process complex algorithms in real-time. The most of human recognition systems adopt the discerning method using fingerprint, iris, and etc. These methods restrict the motion of the person to be discriminated. Recently, the researchers of human recognition systems are interested in facial recognition by using machine vision. Thus, the object of this paper is the implementation of the real-time….

09:30 – 09:50   **D -TA06-4**

A Study on the Automatic Diagnosis of ECG

Jeong Gu Young, Yu Kee Ho, Kwon Tae Kyu and Lee Seong Cheol
(Chonbuk Univ.)

Analyzing the ECG signal, we can find heart disease. Myocardial ischemia is a disorder of cardiac function caused by insufficient blood flow to the muscle tissue of the heart. Myocardial ischemia is inscribed on ST-segment of the ECG during and after patient takes exercise or is under stress, but after long time past, the ECG pattern is return to steady state. Therefore, it is necessary to monitor and analyze the ECG signal continuously for patient or aged people. Our primary purpose is the detection of temporary change of the ST-segment of ECG automatically. In the signal processing, the wavelet transform decomposes the ECG signal into high and low frequency components using wavelet function. Recomposing the high frequency bands including QRS complex, we can detect QRS complex more easily…

09:50 – 10:10   **D -TA06-5**

A Study on CRM(Center of Rotation Method) based on MST(Minimum Spanning Tree) Matching Algorithm for Fingerprint Recognition

Kwon Hyoungki, Lee Junho and Ryu Youngkee
(Sunmoon Univ.)

The MST (Minimum Spanning Tree) matching algorithm had been used for searching the part accord points extracted from the gray level fingerprint image. The method, however, had some limitations. To obtain the relationship between enrolled and inputted fingerprint, the MST was used to generate the tree graph that represent the unique graph for given fingerprint data. From the graph, the accord points are estimated. However, the shape of the graph highly depends on the positions of the minutiae. If there are some pseudo minutiae caused by noise, the shape of the graph will be different. In this paper, to overcome the limitatio ns of the MST, we proposed CRM (Center of Rotation Method) algorithm that found the true part accord points. The proposed method is based on the assumption…