Faculty and Research Interests

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Educations

1989, Ph.D., Electrical Engineering,
National Cheng Kung University,
Tainan, Taiwan

Experiences

2002-Current, Associate Professor,
  Dept. of CSIE, NTUST
1991-2002, Associate Professor,
  Dept. of EE, NTUST

Research Fields

Image processing, pattern recognition, robot vision, augmented reality, computer graphics, intelligent computing.

Projects

● **Development of Humanoid Recognizing Piano Scores Techniques and Implementation of a Two-Hand Playing Piano Robot** (NSC 101-2221-E-011-143-MY3)

This project is to develop a playing piano robot which can real-time recognize printed piano scores, and then play piano by itself. In order to more understand the effect on improving the quality of life, we implement this playing piano robot and hope that it can attract more people to extend the application of such an entertainment robot system.

A Two-Hand Playing Piano Robot

- This playing piano robot is composed of two subsystems: an optical music recognition (OMR) system and a piano playing robot system.
- On the OMR system, we equip a PTZ camera which is commonly used in video surveillance to simulate the human behavior of reading printed piano scores.
- The piano playing robot system consists of a finger system comprising sixteen tubular solenoids for each hand and an arm system driven by two linear motors.