

ABSTRACT

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THE DESIGN OF OBJECT RECOGNIZING AND PICKING SYSTEM

(xvi + 117 pages : 84 figures; 15 tabels; 2 appendixes)

Robot's application couldn't be separated with Industrial world because robot can make human's work easier. The using of digital camera as sensor in robot becomes a need such as for object recognizing. These days, the reliable system recognition is very important. Development in a recognition device technology becomes very important and helpful because it fastens human works and makes it more convenient. Many researches have been done in object recognition, but limited only for one object.

In this research, several objects will be captured by web cam. The result will be proceeding by computer using several methods of computer vision. The result brought into artificial neural network for recognition. The result of artificial neural network recognition become user's benchmark in determining which object to pick. The Cartesian robot will be moved towards the object, then pick and put the object using electromagnetic.

This system successfully recognized, picked, and placed the objects. However, system has some failures in recognizing, picking, and placing the objects. The failure in recognizing is caused by the adjacent spread of area and perimeter of the training set, in picking is caused by the error accumulation in each motion, and in placing is caused by unbalance weight of robot.

References : 13 (1994-2007)