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Abstract
The thesis proposes the methods of robotic mobile control by using color image recognition techniques. These methods are designed and implemented in the applications of the robot soccer competition and an intelligent shopping service robot. In the robot soccer system, the global scene of the field which the robots move in is given by a CCD camera. It makes all the status of robots clear and useful for the mobile controller design. A control strategy of “dual direction movement” is proposed in this study; it raises the mobility of each robot then increases robotic attack power. On the other part, the thesis presents how the local image recognition methods are used in the navigation control of an intelligent shopping service robot. They offer obstacle avoidance and objective guidance controls by visual servo techniques. From experimental results, one can see that the color image recognition techniques make the robots more mobile and controllable.
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