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Robot Arm Control by Hand Tracking using Stereo Camere

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In this paper, we designed and implemented the robot arm control by hand tracking using stereo camera. The camera captured and tracked the hand motion and save the coordinate data of the hand motion in 3D (x, y, z). By using TCP/IP communication, those data were sent to arm robot and be transformed become the motion of the arm robot. The hand tracking data were saved and processed in the PC. The processed data were sent to the arm control and were transformed become the coordinate motion of the arm robot. After the data were received by the arm robot, the data become the next coordinate of the arm robot. Then, the arm robot would be moved according to those coordinate. The experimental results showed that the system successfully controlled the robot according to the motion of the user hand tracked by the stereo camera.

Keywords: Stereo Camera, hand tracking, robot arm.

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