

Human like manipulation skill for robots: Learning and control design

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Abstract

In the near future, robots are expected to co-habit with our human beings and work closely with us in various fields and even our daily lives. Unfortunately, most of the current robot control technologies are designed for conventional industrial robots which operate behind safeguarding and for predefined tasks, and thus are not able to cope with the varying tasks in unknown dynamic environments. Therefore, author study human-like adaptive control techniques as well as highly effective human robot skill transfer techniques. Following “from human and for human” principle, i.e., study human motor control skills in order to develop better robot controllers to support human collaborators, they not only aim for versatile and dexterous robot manipulation but also try to make robot providing personalized assistance to human users. They work to create a new cross-disciplinary application area where physiologists are able to employ their knowledge and experiences together with roboticists, through in depth investigations on the relation between humans and robots.

Biography

Chenguang Yang is a Professor with Bristol Robotics Laboratory, University of the West of England, UK. He is a Team Leader of Immersive Teleoperation. He received PhD degree from the National University of Singapore (2010) and performed Postdoctoral Research at Imperial College London. He has published over 300 international journal and conference papers. He has been awarded EU Marie Curie International Incoming Fellowship, UK EPSRC UKRI Innovation Fellowship and the Best Paper Award of the IEEE Transactions on Robotics as well as over ten conference Best Paper Awards. His research interest lies in human robot interaction and intelligent system design.



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