Generating Robotic Manipulation Motions by Learning from Human Demonstrations

by

Yongqiang Huang

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The dissertation describes approaches that teach robots how to generate manipulation motions to accomplish daily-living tasks using demonstrations collected from the human. The first approach generates fine motions using functional principal components, while the second approach generates motions for accurate manipulations using recurrent neural networks. It has been evaluated on pouring and achieved higher accuracy and generalizability than existing approaches.

Publications

(2) Y. Huang and Y. Sun, "A Dataset of Daily Interactive Manipulation", accepted to International Journal of Robotics Research (IJRR), under minor revision.
(3) Y. Huang and Y. Sun, "Learning to Pour", IROS 2017, pp. 7005-7010.