Docket #: S19-463

RoboTurk: A Cloud-based Crowdsourcing Framework for Real-Time 6-DoF Robot Control with Handheld Mobile Devices

Stanford researchers have developed a crowdsourced framework for real-time robotic teleoperation with six degrees of freedom. Through smartphone controllers, RoboTurk enables large human workforces to remotely operate the robots without the need for prior training. The use of handheld mobile devices allows for natural, intuitive control of the robot. Data collected through the framework can further be used to train robots to complete other autonomous tasks.

Stage of Research

- Prototype

Applications

- **On-demand human workforce for robotic applications**
- Large-scale remote data collection
    - Can be used to train autonomous robots

Advantages

- **No training from experts on robot operation**
- 6 Degrees of freedom control without special hardware
    - Only requires a smartphone and web browser
- **Real-time teleoperation via large, remote workforces on demand**

Publications

- Mandlekar et al. arXiv (2019) " RoboTurk: A crowdsourcing platform for robotic skill learning through imitation"

Patents

- Published Application: WO2021087455
- Published Application: 20230226696
- Issued: 12,226,913 (USA)

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