



Southern Illinois University System

Applications

- Robotics
- Telepresence platforms
- Human-machine interaction

Inventors

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Mr. Slack was a graduate student researcher at Saint Louis University.

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A Telerobotic Manipulator System for Enabling Gestures

Commercial telepresence robots are gaining traction in numerous applications including business, education, healthcare and aiding in social interaction for the elderly. Telepresence robots enable video conferencing on a mobile, robotic platform, situating themselves between basic video conferencing and complex human-like robots. While such platforms allow the remote user to be more “present,” the lack of tangible interactions and expressive gesturing capabilities can leave the user feeling helpless, and leave colleagues confused with how to interact with the robot.

Invention

SIUE and SLU researchers have developed a manipulator designed specifically for attachment to a telepresence robot. The manipulator embodies human-like functionality, enabling the three primary social behaviors of 1) tangible interactions, 2) expressive gestures and 3) referencing by pointing, while also being lightweight and of a small-form factor for carrying onboard a telepresence platform. Researchers have also been seeking to enhance the social experience between local and remote users through a hands-free, one-to-one mapping of their gestures to the robot manipulator’s movements and allowing the remote user’s gestures expressed through the robot manipulator.

Key Advantages

- Lightweight design
- Easily attaches to telepresence platform
- Embodies human-like functionality
- Enhanced social experience between user and remote robot



Status

U.S. provisional patent was filed for this technology on September 17, 2019. The technology is available for license. The technology has been funded by the NSF and additional translational studies are currently underway.

Other opportunities related to this technology, included but not limited to sponsored and/or collaborative research, may be available. Please reach out to the designated contact identified at left for more information.