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Robonaut-the space robot inspired by NASA

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Abstract

The Robonaut is an anthropomorphic system at NASA Johnson Space Center. It is intended specifically to use the interfaces designed for EVA astronaut. The program has been supported by DARPA. The robot is smaller than a suited astronaut; the level of dexterity is similar to a human hand working through a pressurized space-suited glove. The aim was to reduce crew workload on Space Shuttle and ISS missions by telerobotically preparing and disassembling worksites using Robonaut. Robonaut has a number of control modes, thus allowing it to be supervised and operated with a time delay of 2 to 10 seconds to represent operations throughout the Earth-Moon system. The development of Robonaut has expanded beyond its original concept with additional sensors and automation since early 2000s; it led to the capability of operating it from the ground thus alleviating further the workload of astronauts. Robonaut has been fitted with different lower bodies recently; it allowed the operation in a variety of environments. For example, Centaur has a four-wheel base, it has performed well during field tests intended to be analogs for lunar surface operations in coordination with a human return to the Moon.

Biography

Soumya Susan John completed my Masters in Robotics and Automation from Amrita University. I'm now working as a Robotic Process Automation Engineer in UST Global. My works include Semi-Automatic Rubber Tree Tapping Machine, Multi-agent flocking using a swarm of decentralized mobile robots ,Joint Probabilistic Model of Shape and Intensity for Multiple Abdominal Organ Segmentation from Volumetric CT Images. I have 1 publication in the IEEE journal SART- Semi-Automatic Rubber Tree Tapping Machine.

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