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Image Recognition Integrated Service (IRIS) Robotic Arm

IRIS robotic prosthetic arm uses onboard image recognition to help children semi-autonomously grasp and manipulate everyday objects.

Researchers at Purdue University have developed an image recognition integrated service (IRIS) robotic prosthetic arm targeted to help children aged 7-14 adjust to disabilities early to enhance quality of life in adulthood. By using an embedded camera for object recognition, the system can identify objects in the environment and determine their distance from the camera. This is used to control the prosthetic's 5 functional fingers, palm, and optional 4 degree of freedom wrist. This enables the prosthetic to grasp, apply force to, or lift everyday objects in a manner appropriate to the object.

Technology Validation: This technology has been validated through the fabrication and testing of a prototype. The prosthetic hand was capable of object recognition-based actuation.

Advantages

-Aimed to help children aged 7-14

-Low cost, minimized form factor

-Object and distance identification

-Semi-autonomous manipulation of everyday objects

Applications

-Prosthetic limbs for children

-Image recognition in real world AI

-Robotics

TRL: 4

Intellectual Property:

Technology ID
2023-WEIB-69953

Category
Artificial Intelligence & Machine Learning/Computer Vision & Image Recognition
Digital Health & Medtech/Wearable Health Tech & Biosensors
Digital Health & Medtech/Assistive Robotics & Accessibility Systems

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View online

Provisional-Patent, 2023-02-18, United States

Utility Patent, 2024-02-16, United States

Keywords: Assistive Technology, Biomedical, Biomedical Engineering, disability, image recognition, Mechanical Engineering, Prosthesis, Prosthetics, Robotics