

Humanizing Humanoids: An Extensive Review on the Potential of Prosthetic Robotic Arm with Integrated Monitoring System for Disabled People



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Abstract This review offers an in-depth review of current developments in patient monitoring technologies and prosthetic robotic arms, with a focus on their application for children with disabilities. These prosthetic arms' design, development, and testing—which aspire to imitate the functions of human arms—are thoroughly explored. The paper also examines the application of virtual reality in user training and the significance of performance assessment in enhancing the functioning and design of the prosthetic. Additionally, numerous case studies are used to illustrate the various ways that robotic arms are used in industrial and rehabilitation contexts. It is emphasized as a potential way to raise the standard of care for kids with disabilities: the integration of patient monitoring systems and prosthetic robotic arms. The review attempts to highlight topics that need further research and lay a platform for future studies in this field.

Keywords Prosthetic robotic arms · Patient monitoring systems · Rehabilitation · Virtual reality training · Assistive technologies

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