



Special Issue Reprint

Exoskeleton Robotic Systems

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This Special Issue Book presents a collection of articles highlighting recent achievements, applications, studies, and review articles within the field of exoskeleton robotic systems. These contributions cover a wide range of applications of these systems, from the rehabilitation of the upper and lower limbs to assisting human gait when ascending and descending stairs, actuator selection criteria, and the implementation of actuation moment control algorithms. Over the past 20 years, the therapies available in rehabilitation clinics have improved substantially, aided by robotic rehabilitation systems, which have seen rapid progress and increased performance. This progress has contributed to the diversification of the applications of exoskeleton robotic systems, namely, to provide assistance in the following: in climbing up and down stairs, to workers in various activities (carrying weights, working with raised arms, or in a bent position), and even in executing sit-to-stand movements. Exoskeleton robotic systems are used in a wide range of fields, both medical (rehabilitation, paraplegics, and amputees) or non-medical (rescue operations, construction work, etc.). The progress of exoskeleton robotic systems is notable and is visible in both lower-limb and upper-limb exoskeletons. However, there remain challenges, such as optimizing control systems and human-machine interactions.



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