



sensors



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Wearable and BAN Sensors for Physical Rehabilitation and eHealth Architectures

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The demographic shift of the population towards an increase in the number of elderly citizens, together with the sedentary lifestyle we are adopting, is reflected in the increasingly debilitated physical health of the population. The resulting physical impairments require rehabilitation therapies which may be assisted by the use of wearable sensors or body area network sensors (BANs). The use of novel technology for medical therapies can also contribute to reducing the costs in healthcare systems and decrease patient overflow in medical centers. Sensors are the primary enablers of any wearable medical device, with a central role in eHealth architectures. The accuracy of the acquired data depends on the sensors; hence, when considering wearable and BAN sensing integration, they must be proven to be accurate and reliable solutions. This book is a collection of works focusing on the current state-of-the-art of BANs and wearable sensing devices for physical rehabilitation of impaired or debilitated citizens. The manuscripts that compose this book report on the advances in the research related to different sensing technologies (optical or electronic) and body area network sensors (BANs), their design and implementation, advanced signal processing techniques, and the application of these technologies in areas such as physical rehabilitation, robotics, medical diagnostics, and therapy.



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