UNIVERSITY OF SOUTH FLORIDA

Major Research Area Paper Presentation

A Low Cost and Mobile System for Lower Body Rehabilitation
by
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For the Ph.D. degree in Computer Science & Engineering

The number of total knee and hip replacements, limb amputations, and joint related problems in the United States has doubled in the last decade. More than 8.6 million people suffer from neurological disorders that affect their gait and balance. Physical therapists provide patients with interventions to improve their functional outcomes, yet gait analysis is conducted in a subjective and observational manner. The use of quantitative methods would allow assessing and tracking progress of patients' gait during and after rehabilitation. This paper surveys the state-of-the-art in the use of wearable sensor technology in gait, balance, and range of motion analysis, serving as a point of reference for future research, describing challenges in the field and current solutions. A two-level taxonomy of rehabilitation assessment is introduced with evaluation metrics and common algorithms utilized in such systems.

Thursday, March 28, 2019
2:00 pm
CUTR 102

THE PUBLIC IS INVITED

Examining Committee
Miguel A. Labrador, Ph.D., Major Professor
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