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Video conferenced to 4142 Engineering Building III (NC State) & ECU

Applications of Computer Vision in Human Movement Assessment

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ABSTRACT
Identifying and understanding movement dysfunction is an important component of rehabilitation and the initiation of treatment. Current state-of-the-art approaches for movement analysis, such as marker-based motion capture systems and instrumented gait mats, are largely inaccessible due to prohibitive costs of time, money, and effort required to perform the assessments. Video-based movement analyses provide an easy and accessible method for assessing clinically relevant motor measures in the clinic and at home.

Here, I will discuss our recent work on using computer vision to perform movement assessments using simple digital videos. I will highlight work that demonstrates our approaches to video-based assessments of gait and upper extremity movements in persons with and without neurologic damage or disease. I will also provide some perspectives for getting optimal results when using these technologies and discuss considerations for in-clinic or in-home applications.