

Author's Accepted Manuscript

Gait Biomechanics in the Era of Data Science

Reed Ferber, Sean T. Osis, Jennifer L. Hicks, Scott L. Delp



PII: S0021-9290(16)31133-2
DOI: <http://dx.doi.org/10.1016/j.jbiomech.2016.10.033>
Reference: BM7943

To appear in: *Journal of Biomechanics*
Accepted date: 21 October 2016

Cite this article as: Reed Ferber, Sean T. Osis, Jennifer L. Hicks and Scott L. Delp, Gait Biomechanics in the Era of Data Science, *Journal of Biomechanics* <http://dx.doi.org/10.1016/j.jbiomech.2016.10.033>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting galley proof before it is published in its final citable form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

Perspectives Article**Gait Biomechanics in the Era of Data Science**

Reed Ferber (PhD)^{1,2,3}, Sean T. Osis (MSc)^{1,3}, Jennifer L. Hicks (PhD)⁴, Scott L. Delp (PhD)^{4,5,6}.

¹ Faculty of Kinesiology, University of Calgary, Calgary, Alberta, Canada

² Faculty of Nursing, University of Calgary, Calgary, Alberta, Canada

³ Running Injury Clinic, Calgary, Alberta, Canada

⁴ Department of Bioengineering, Stanford University, Stanford, California, USA

⁵ Department of Mechanical Engineering, Stanford University, Stanford, California, USA

⁶ Department of Orthopaedic Surgery, Stanford University, Stanford, California, USA

Corresponding author:

Reed Ferber, PhD
Associate Professor, Director: Running Injury Clinic
University of Calgary
2500 University Drive NW
Calgary, Alberta, CANADA
T2N 1N4
E-mail: rferber@ucalgary.ca
Phone: +1 (403) 210-6468
Fax: +1 (403) 289-9117

Keywords: Biomechanics, Gait, Data Science, Machine Learning.

Word count: 182 words (Abstract), 1760 words; 9 double-spaced manuscript pages (main text)

Abstract

Data science has transformed fields such as computer vision and economics. The ability of modern data science methods to extract insights from large, complex, heterogeneous, and noisy datasets is beginning to provide a powerful complement to the traditional approaches of experimental motion capture and biomechanical modeling. The purpose of this article is to provide a perspective on how data science methods can be incorporated into our field to

Download English Version:

<https://daneshyari.com/en/article/5032271>

Download Persian Version:

<https://daneshyari.com/article/5032271>

[Daneshyari.com](https://daneshyari.com)