



**Exponent<sup>®</sup>**  
Engineering & Scientific Consulting

## Yashar Aucie, Ph.D.

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### Professional Profile

Dr. Aucie addresses issues involving the biomechanics of human injury, including motor vehicle collisions, premises liability events, and interactions involving consumer products. He has also been involved in the evaluation of various issues related to Consumer Product Safety Commission (CPSC) product recalls and investigations. He has extensive experience using motion capture systems, force-plates, electromyography (EMG), inertial motion units (IMUs), exoskeletons, and mobile respirometry systems.

Prior to joining Exponent, Dr. Aucie was a Graduate Assistant at the University of Pittsburgh Department of Bioengineering, working in the Sensorimotor learning laboratory. During his time in this laboratory, Dr. Aucie employed unique experimental methods by using force-plate data to assess the transfer of walking movement from a treadmill to overground. Furthermore, he implemented a novel approach to count steps during overground walking in real time with a motion capture system, allowing for better control for uniform data collection. Dr. Aucie has led more than 200 sessions of human testing on young and older healthy adults as well as post-stroke patients.

### Academic Credentials & Professional Honors

Ph.D., Bioengineering, University of Pittsburgh, 2021

B.S., Bioengineering, University of Pittsburgh, 2015

Graduate Assistantships in Areas of National Need (GAANN) Fellowship Award, 2017-2019

Outstanding Biomechanics Student of the Year, Department of Bioengineering, Committee of Biomechanics, University of Pittsburgh, 2015

### Prior Experience

Graduate Research Assistant, Sensorimotor Learning Laboratory, Department of Bioengineering, University of Pittsburgh, 2015-2021

Undergraduate Research Assistant, Biodynamics Laboratory, Department of Orthopaedic Surgery, University of Pittsburgh Medical Center, 2013-2015

### Professional Affiliations

Biomedical Engineering Society (member)

American Society of Biomechanics (member)

## Publications

Aucie, Y., Zhang, X., Sargent, R., & Torres-Oviedo, G. (2020). Motorized shoes induce robust sensorimotor adaptation in walking. *Frontiers in Neuroscience*, 14, 174.

Nguyen, T. M., Jackson, R. W., Aucie, Y., de Kam, D., Collins, S. H., & Torres-Oviedo, G. (2020). Self-selected step length asymmetry is not explained by energy cost minimization in individuals with chronic stroke. *Journal of NeuroEngineering and Rehabilitation*, 17(119), 1-16.

Anderst, W. J., & Aucie, Y. (2017). Three-dimensional intervertebral range of motion in the cervical spine: Does the method of calculation matter?. *Medical Engineering & Physics*, 41, 109-115.

## Presentations

Aucie, Y., Zhang, X., Sargent, R., & Torres-Oviedo, G. Locomotor learning "in the wild": motorized shoes can induce split-belt-like adaptation over ground. Poster presentation, Society for Neuroscience Conference, Washington, D.C., 2017.

Aucie, Y., & Anderst, W. J. The effect of joint angle calculation method on intervertebral range of motion in the lower cervical spine. Podium presentation. Orthopedic Research Society (ORS) Conference Annual Meeting, Las Vegas, Nevada, 2015.