

# Alyssa Olivas

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## Education:

### *PhD in Biomedical Engineering*

The University of Texas at El Paso (UTEP)

**Dissertation Title:** The mobility and cognitive mechanisms involved in altering gait speed in children with Autism Spectrum Disorder

Overall GPA: 4.0/4.0

Anticipated Graduation: May 2022

CareerPrep Apprentice Teacher Certificate at UTEP

December 2018

### *Bachelor of Science with Honors in Biology, Summa Cum Laude*

The University of Texas at El Paso (UTEP)

Overall GPA: 3.94/4.0

Awarded: December 2017

## Research Experience:

### *Research Assistant*

Stanley E. Fulton Gait Research & Movement Analysis Laboratory at UTEP

El Paso, TX

10/18 – Present

- Analyze gait and lower extremity biomechanics of children with Autism Spectrum Disorder (ASD)
- Led a project on the kinematics of different gait speeds, and how changing gait speed could be influenced by cognitive abilities in children with ASD
- Conducted a project on use of weighted vests and accommodation strategies during gait utilized by children with ASD
- Assisted with project that examined the use of live animation biofeedback on children with ASD and accompanying manuscript
- Mentor undergraduate and masters' students on laboratory protocols, usage of equipment and technology, and reviewing research articles
- Composed IRB research protocols, consent forms, and children assent forms for various projects

## Relevant Experience:

### *Graduate Teaching Assistant*

UTEP Undergraduate Biomechanics (Lab)

El Paso, TX

6/20- Present

- Created lecture content, assignments and quizzes in topics such as linear and angular kinematics, linear kinetics, EMGs, and collisions
- Assisted with converting all laboratory material to an online format for virtual learning
- Grade assignments and quizzes for over 80 students and answer questions for students on a weekly basis

### *Graduate Teaching Assistant*

UTEP University Career Center

El Paso, TX

9/18- 8/19

- Conducted over 30 resume reviews monthly for students, assisted with mock interviews, and led various workshops to classrooms on career development
- Met with graduate students on a one-on-one basis to discuss resumes, LinkedIn profiles, internship opportunities, and interview tips
- Organized and conducted lunch and learn workshops throughout the semester for graduate students on topics, such as Curriculum Vitae, Networking, and Negotiating a Job offer

### *Instructor*

Engineering for Kids El Paso West

El Paso, TX

6/18-7/18

- Taught six different week-long camps incorporating science and engineering projects for children ages 5-14 (50 students)
- Assisted students with building CO2 dragster cars, rocket bottles, solar powered boats, roller coasters, bridges, sailboats, skyscrapers, wind turbines, and different robots
- Emphasized concepts such as the engineering design process, simple circuit building, energy, and force

### **Publications:**

Eggleston, J.D., **Olivas, A.N.**, Vanderhoof, H.R., Chavez, E.A., Alvarado, C., Boyle, J.B. (2021). Children With Autism Exhibit More Individualized Responses to Live Animation Biofeedback Than Do Typically Developing Children. *Perception & Motor Skills*, 0031512521998280.

Eggleston, J. D., Harry, J. R., Cereceres, P. A., **Olivas, A. N.**, Chavez, E. A., Boyle, J. B., & Dufek, J. S. (2020). Lesser magnitudes of lower extremity variability during terminal swing characterizes walking patterns in children with autism. *Clinical Biomechanics*, 105031.

**Olivas, A.N.**, Chavez, E.A., Eggleston, J.D., (In Review). Children with Autism Decrease their Base of Support in Response to Walking with a Weighted Vest. *Journal of Applied Biomechanics*.

Chavez, E.A., **Olivas, A.N.**, Vanderhoof, H.R., Eggleston, J.D., (In Review). Dual-task walking does not alter lower extremity movement strategies nor trip risk in young adults. *Translational Journal of the American College of Sports Medicine*.

### **Scholarships and Grants Awarded:**

2020 Eloise E. and Patrick B. Wieland Graduate Fellows Endowment

2019 UTEP Graduate Scholarship  
UTEP Graduate School Travel Grant  
UTEP College of Engineering Travel Grant

2018 UTEP Doctoral Excellence Scholarship  
Patricia and John Rogers Scholarship

### **Poster Presentations:**

2020 **Olivas, A.N.**, Chavez, E.A., Cereceres, P.A., Eggleston, J.D. Responses to Incremental Loads in a Weighted Vest in Children with Autism Spectrum Disorder. American Society of Biomechanics Annual Meeting (Virtual)

2019 **Olivas, A.N.**, Chavez, E.A., Harry, J.R., Dufek, J.S. Eggleston, J.D. Weighted vest effects on stride parameter variability in children with autism spectrum disorder. International Society of Biomechanics Annual Meeting, Calgary, CN.

2019 **Olivas, A.N.**, Chavez, E.A., Harry, J.R., Dufek, J.S. Eggleston, J.D. Weighted vest effects on stride parameter variability in children with autism spectrum disorder. Medical Center of the Americas Poster Session, El Paso, TX.

### **Conferences Attended:**

2021 American Society of Biomechanics Annual Meeting, **Presenter**, Super Newtonian Strategies Adopted by Children with Autism Spectrum Disorder

American Society for Engineering Education Annual Conference (Virtual)

UMOVE, **Presenter**, "Load Accommodation Strategies in Children with Autism" (Virtual)

Biomedical Day at UTEP, Hosted by UTEP College of Engineering and Medical Center of the Americas (Virtual)

2020 American Society of Biomechanics Annual Meeting (Virtual)

2019 UTEP Graduate Expo, **Presenter**, "Weighted vest effects on stride parameter variability in children with autism spectrum disorder" in El Paso, TX

International Society of Biomechanics Annual Meeting in Calgary Canada

UTEP Light it Up Blue for Autism Conference, **Presenter**, “Movement-based Research among individuals with Autism Spectrum Disorder” in El Paso, TX

2016 Hatton Sumner’s Leadership Conference in Austin, TX

UTEP 21<sup>st</sup> Century Scholars Leadership Conference in El Paso, TX

**Funded Research Proposals:**

2021 UTEP Graduate School Summer Research Funding Program

**Not Funded Research Proposals:**

2020 American Society of Biomechanics Grant in Aid  
The Effect of Hippotherapy on Gait and Postural Control in Children with Autism Spectrum Disorder: A Pilot Study

2019 Autism Speaks Pre-Doctoral Fellowship Program  
Project: Weighing in: Gait accommodation strategies in children with autism during weighted vest use

2019 UTEP Summer Research Grant  
Project: Perform research in the laboratory for the duration of the summer

**Professional Memberships/Appointments:**

TALARIA Remote Summer Research Opportunity, **Mentor**, 2021  
UTEP Graduate Student Assembly, **Biomedical Engineering PhD Program Student Representative**, 2020- Present  
American Society for Engineering Education, **General Member**, 2020 - Present  
Biomedical Engineering Society, **General Member**, 2020 - Present  
American Society of Biomechanics – **Diversity Committee Student Member**, 2019- Present  
American Society of Biomechanics, **General Member**, 2018- Present

**Community Involvement:**

2019 Autism Society of El Paso Monthly Meetings  
UTEP Project Move – Community Service at Compadres Therapy (Hippotherapy)  
Autism Society of El Paso 5K Annual Walk/Run for Autism Awareness  
American Society of Biomechanics – National Biomechanics Day

**Skills:**

Working Knowledge of Vicon Motion Capture System, Nexus Motion Capture Software  
Familiar with Noraxon Inertial Measurement Unit System, and Visual3D- C-Motion  
Familiar with Biodex dynamometer system 3 and Delsys Trigno wireless EMG system  
CITI Biomedical Responsible Conduct of Research Certified 2018  
CITI Nursing, Pharmacy & Allied Health Researchers Certified 2018  
Proficient in Microsoft Word, Excel, Canva and Power Point