

# CURRICULUM VITAE

## VASANTH SUBRAMANIAN

### PERSONAL INFORMATION

Full Name: Vasanth Subramanian, MS  
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### EDUCATION

Master of Science, Kinesiology (Sports Medicine) 2015  
The University of North Carolina at Greensboro (UNCG)  
*Master's Project: The Effect of Low Back Pain on Movement Accuracy and Muscle Activation Patterns during a Reaching Task*

Master of Science, Mechanical Engineering (Biomechanics) 2009  
The University of Illinois-Chicago, Chicago, IL  
*Thesis: Morphological Characterization of Human Vertebral Endplate*

Bachelor of Technology in Mechanical Engineering 2007  
SASTRA University (Shanmugha Arts, Science, Technology and Research Academy), Thanjavur, Tamil Nadu, India

### HONORS

UNCG Graduate Student Association Travel Grant 2013  
Susan Stout Award, Department of Kinesiology, UNCG 2010  
Dean's List, SASTRA University 2006

### WORK and RESEARCH EXPERIENCE

Research Engineer 1 March 2018 – Present  
Northwestern University Prosthetics-Orthotics Center /  
Department of Physical Medicine and Rehabilitation,  
Northwestern University, Chicago, IL

Research Associate May 2015 – February 2018  
Center for Lower Extremity and Ambulatory Research,  
Department of Podiatric Surgery and Applied Biomechanics,  
Rosalind Franklin University of Medicine and Science, North Chicago, IL

Instructor & Senior Teaching Assistant Department of Kinesiology The University of North Carolina at Greensboro, Greensboro, NC (Physical Fitness for Life, Motor Learning and Motor Development, Conditioning)	2010 – 2014
Research Assistant Applied Neuromechanics Research Group The University of North Carolina at Greensboro, Greensboro, NC	2010 - 2014
Volunteer Research Fellow Spine Biomechanics Lab, Department of Orthopedics, Rush University, Chicago, IL	2008-2009
Summer Intern CG Industries, Ltd. (renamed CoreCentric Solutions, Inc., 8/2/2010) Glendale, IL	June 2008 – August 2008

## **RESEARCH GRANTS**

*The Effect of Low Back Pain on Movement Accuracy and Muscle Activation Patterns during a Reaching Task*, UNCG Graduate School Summer Research Grant, 2012 (\$2,000)

*The Effect of Eccentric Exercise Induced Muscle Damage on Reaching Movements*, UNCG Susan Stout Summer Project Award, 2010 (\$2,000)

## **TECHNICAL SKILLS**

Motion Capture & Analysis: Phasespace, Vicon, Motion Analysis  
 Electromyography collection and processing: Delsys  
 Instron Compression Testing  
 Novel Pressure Systems: Emed, Pedar®  
 Histological techniques, specimen dissection, preparation and handling  
 Software: MatLab, SPSS, Microsoft Office Suite, Windows XP, Vista, Mac OS, Unix OS  
 Writing Grant Proposals

## **PROFESSIONAL and SCIENTIFIC SERVICE**

Department Senator, Graduate Student Association, UNCG	2010-2014
Student Participant, Diversity Luncheon, 37 <sup>th</sup> American Society of Biomechanics, Omaha, NE	2013
Student Judge, Human Movement Science Research Symposium, Chapel Hill, NC	2011
Executive member, Mechanical Engineering, Student Association, SASTRA University	2004-2007

## PEER REVIEWED PUBLICATIONS

**Subramanian V**, et al. Motion-based gaming to improve balance and physical activity in patients with mild traumatic brain injury (mTBI), 2017 IEEE Great Lakes Biomedical Conference (GLBC), Milwaukee, WI, 2017, pp. 1-1.

Lin F, **Subramanian V**, Swaminathan B, Cotter W, Putnam C, Gunderson K, Yalla S. Computer Motion Gaming Provides Additional Benefits in Rehabilitation of Mild Traumatic Brain Injury, Archives of Physical Medicine and Rehabilitation, Volume 97, Issue 10, 2016, Page e130.

Budyn E, Bilagi A, **Subramanian V**, Espinoza Orías AA, Inoue N. (2014) Analysis of panoramic microscopic observations of human vertebral endplate morphology. Computer Modeling in Engineering & Sciences, 1(1): 1-34.

## PRESENTATIONS

Lin A, Swaminathan B, Yalla S, **Subramanian V**, Putnam C, Cotter W, Gunderson K. Achieving Better Rehabilitation Outcomes for Veterans with Mild Traumatic Brain Injury Using Motion-Based Gaming. 2017 Defense Centers of Excellence for Psychological Health and Traumatic Brain Injury Summit, September 2017. National e-Conference, poster.

Coon M, **Subramanian V**, Ortiz J, Rosenblatt NJ. Relating Obesity, Cognition and Biomechanics of Fall-Recovery in Older Adults: Preliminary Results. 41st Annual Meeting of American Society of Biomechanics. Boulder, CO, August 2017. National Conference, podium.

Ram R, Akram A, **Subramanian V**, Crews R, Yalla SV. Removable Cast Walker Strut Height Influence on Performance of Common Physical Activities by Persons with Diabetes. The National APMA Annual Scientific Meeting. Nashville, TN, July 2017. National Conference. Poster and presentation at 48th Annual Midwest Student Biomedical Research Forum, Omaha, NE, February 2017. Regional Conference, podium.

Lin A, Swaminathan B, Yalla S, **Subramanian V**, Putnam C, Cotter W. Assisting Rehabilitation of Veterans with Mild Traumatic Brain Injury (mTBI) Using Motion-Based Games (MBG). Hines VA/Lovell FHCC Research Day, Hines IL, May 2017. Regional Conference.

Crews RT, Schneider KL, Hwang S, Moxley E, **Subramanian V**, Aylward L, DiLiberto F, Yalla S. Preliminary Findings of Low-cost Interventions to Increase Physical Activity in Adults at Risk for a Diabetic Foot Ulcer. Diabetic Foot Global Conference (DFCon), Houston, TX, March 2017. National Conference, poster.

Ram R, Wilhite S, Steriovski J, **Subramanian V**, Crews R, Yalla S. Influence of Removable Cast Walker Strut Height on Functional Performance of Activities of Daily Living by Persons with Diabetes. Rosalind Franklin University of Medicine and Science. North Chicago, IL, March 2017. University Research Consortium, Poster & presentation at 39th Annual IPMSA Midwinter Seminar, North Chicago, IL, January 2017. Regional Conference, podium.

Abbas M, **Subramanian V**, Yalla S, Swaminathan B, Cotter W, Lin A. Improvement in gait metrics and barefoot postural stability for patients with a history of mild traumatic brain injuries following therapy. Rosalind Franklin University of Medicine and Science, North Chicago, IL, March 2017. University Research Consortium, poster.

Mose E, **Subramanian V**, Conneely M, Cotter W, Swaminathan B. Correlation between persistent post concussive syndrome after blast induced mild traumatic brain injury and MRI findings. Rosalind Franklin University of Medicine and Science, North Chicago, IL, October 2016. University Research Consortium, poster.

Ram R, Steriovski J, **Subramanian V**, Yalla SV, Crews R. Influence of removable cast walker on functional performance of activities of daily living by persons with diabetes. Rosalind Franklin University of Medicine and Science, North Chicago, IL, October 2016. University Research Consortium, poster.

Swaminathan B, Cotter W, Dent S, Gunderson K, Anima A, Popovic K, Morris A, Lin F, Yalla SV, **Subramanian V**, Putnam C, Cheng J. Using Motion-Based Gaming Improves Rehabilitation Outcomes and Enjoyment in Patients with TBI, Hines VAH/Lovell FHCC Research Day, Hines, IL, May 2016. Regional Conference, poster.

**Subramanian V**, Yalla SV, Putnam C, Swaminathan B, Cotter W, Gunderson K, Anima A, Lin F. Quantitative outcome assessment of motion based gaming for brain injury rehabilitation. The Eleventh World Congress on Brain Injury, The Hague, The Netherlands, March 2016. International Conference, poster.

Steriovski J, **Subramanian V**, Kim A, Yalla S, Crews R. Strut Height Influence on Performance of Common Physical Activities by Diabetic Patients using Removable Cast Walkers. Rosalind Franklin University of Medicine and Science, North Chicago, IL, October 2015. University Research Consortium, poster.

**Subramanian V**, Schmitz RJ, Shultz SJ. Movement Accuracy and Muscle Activation during a Reaching task in Healthy Subjects – A Pilot Study. World Congress of Biomechanics, Boston, MA, July 2014. International Conference, poster.

**Subramanian V**, Schmitz RJ, Shultz SJ. Trunk muscle activation during a reaching task in healthy population. Human Movement Science Research Symposium, Chapel Hill, NC, February 2014. Regional Conference, podium.

**Subramanian V**, Kornatz KW. Decreased movement accuracy as a result of low back pain in a reaching task. Graduate Research Expo, The University of North Carolina at Greensboro, Greensboro, NC, April 2013. University Conference, podium.

**Subramanian V**, Kornatz KW. The effect of low back pain on movement accuracy during a reaching task – Preliminary Investigation, Human Movement Science Research Symposium, Chapel Hill, NC, March 2013. Regional Conference, podium.

**Subramanian V**, Kornatz KW. Re-adaptation of movement accuracy after exercise induced muscle damage. Graduate Research Expo, The University of North Carolina at Greensboro, Greensboro, NC, April 2012. University Conference, poster.

**Subramanian V**, Kornatz KW. Re-adaptation of strength and movement accuracy from eccentric exercise-induced muscle dysfunction. Human Movement Science Research Symposium, Chapel Hill, NC, February 2012. Regional Conference, poster.

Kornatz KW, Chang Y, **Subramanian V**, Dickerson CJ. A muscle's role influences the effect of eccentric exercise on arm movement kinematics. American College of Sports Medicine, Baltimore, MD, June 2010. National Conference, poster.

**Subramanian V**, Chang YK, Dickerson CJ, Kornatz KW. Influence of a muscle's role as agonist or antagonist on arm-movement accuracy after eccentric exercise. Human Movement Science Research Symposium, Chapel Hill, NC, March 2010. Regional Conference, poster.