Austin E. Moss, Ph.D.

Adjunct Lecturer

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LinkedIn ◇ Google Scholar

EDUCATION

Doctor of Philosophy in Mechanical Engineering May 2024
University of Florida, Gainesville, FL
University of Florida Graduate Student Fellowship

Master of Science in Mechanical Engineering May 2019
University of Florida, Gainesville, FL

Bachelor of Science in Mechanical Engineering May 2016
University of South Florida, Tampa, FL
National Merit Scholarship Program Recipient, Summa cum Laude, Honors College

EXPERIENCE

University of Florida Aug 2024 - Present
Adjunct Lecturer *Gainesville, FL*

- Delivered comprehensive lectures and developed course materials for undergraduate Mechanics of Materials, aligning content with the program's learning objectives
- Fostered critical thinking and problem-solving skills through applied examples, hands-on demonstrations, and in-depth discussions of theoretical concepts
- Provided individualized support to students through office hours, feedback on assignments, and additional learning resources, promoting a deeper understanding of complex topics
- Assessed and revised course materials based on student feedback to improve the learning experience

Varsity Tutors Jan 2024 - May 2024
Tutor *Remote*

- Provided one-on-one tutoring in engineering topics to college students
- Developed customized lesson plans and study strategies to meet individual student needs and learning styles
- Assisted students in understanding complex concepts, solving problems, and preparing for exams and assignments
- Utilized a variety of teaching methods and tools to create an engaging and effective learning environment, maintaining a perfect 5.0 rating

University of Florida - Professor Mohsenis Research Group Jun 2016 - Jan 2024
Graduate Research Assistant *Gainesville, FL*

- Designed bioinspired soft actuators for mechatronic and robotic applications
- Prototyped designs with advanced fabrication techniques, including additive manufacturing and laser cutting, to explore innovative actuator solutions
- Formulated continuum modeling and simulation techniques to analyze the nonlinear mechanical behavior of composite structures for deformation control in soft robotic systems
- Developed and implemented finite element analysis (FEA) and finite difference method (FDM) simulations to solve and validate modeling results against experimental data
- Led and mentored a team of students, overseeing research projects and fostering collaborative innovation
- Communicated technical findings through peer-reviewed publications and presentations

University of Florida Jan 2020 - Dec 2023
Teaching Assistant *Gainesville, FL*

- Held lectures and office hours to communicate technical concepts to graduate and undergraduate students
- Assisted with course design and developed educational materials for students
- Worked with faculty to develop remote teaching experiences for students during Covid-19

University of South Florida - Micro-Integration Laboratory Sep 2015 - May 2016
Undergraduate Research Assistant *Tampa, FL*

- Developed improved manufacturing techniques for metal binder jetting additive manufacturing specimens
- Conducted experiments to determine the mechanical properties of modified 3D printed materials
- Gained **communication** and technical writing experience through preparation of honors thesis

Leslie Controls, Inc. Sep 2014 - May 2015
Design Engineering Intern *Tampa, FL*

- Designed new valves and steam conditioning units and modified existing designs for new clients to allow for more versatility in applications in steam power plants
- Programmed calculation algorithms for the analysis of potential new products
- Prepared reports for Navy valves in compliance with government standards
- Established company procedures for part export compliance classification

PUBLICATIONS

1. N. Sholl, **A. Moss**, W. M. Kier, and K. Mohseni, "A soft end effector inspired by cephalopod suckers and augmented by a dielectric elastomer actuator", *Soft Robotics*, vol. 6, no. 3, pp. 356-367, 2019.
2. N. Sholl, **A. Moss**, M. Krieg, and K. Mohseni, Controlling the deformation space of soft membranes using fiber reinforcement, *The International Journal of Robotics Research*, vol. 40, no. 1, pp. 178-196, 2021.
3. **A. Moss**, M. Krieg, and K. Mohseni. "Modeling and characterizing a fiber-reinforced dielectric elastomer tension actuator, *IEEE Robotics and Automation Letters*, vol. 6, no. 2, pp. 1264-1271, 2021.
4. **A. Moss** and K. Mohseni, Analyzing deformations in fiber-reinforced soft membranes undergoing axisymmetric inflation: continuum model and experimental validation, *European Journal of Mechanics A/Solids*, vol. 106, pp. 105303, 2024.
5. **A. Moss**, N. Sholl, and K. Mohseni. Utilizing spatially varying fiber arrays in soft morphing surfaces for grasping applications, *Soft Robotics*, (Under Review).
6. **A. Moss** and K. Mohseni. Modeling and design of a biomimetic fiber-reinforced soft thruster, (In Preparation).

SPECIALIZED COURSEWORK

Applied Elasticity/ Advanced Mechanics of Solids
Continuum Mechanics
Advanced Structural Composites
Engineering Innovation & Entrepreneurship
Linear & Nonlinear Finite Element Analysis
Control of Marine and Aerial Vehicles
Python Programming
Numerical Methods

TECHNICAL STRENGTHS

Programming Languages	Python, MATLAB, C++, LabVIEW
Software	Abaqus, Ansys, Solidworks, Mathematica, Microsoft Office, LaTeX
Manufacturing	Laser cutting technologies, Fused deposition modeling, metal binder jetting, MultiJet, masked stereolithography

LEADERSHIP

Chair, *UF MAE Graduate Student Council* 2018-2019

- Led council meetings and the executive board
- Collaborated with faculty to improve the graduate student experience
- Organized subcommittees for various initiatives, including student networking events, student mental health initiatives, social events, and international student employment workshops

AWARDS AND HONORS

Daniel A. Honig Family Graduate Fellowship	2023
University of Florida Graduate Student Fellowship	2016
University of South Florida National Merit Scholarship	2012
National Merit Finalist	2011
FMEA/FBA All-State Musician	2008, 2009, 2010, 2012