MICAH OEVERMANN, PHD

Texas A&M University ◇ College Station, Texas ◇ U.S. Citizen
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Portfolio: micah-oevermann.com ◇ Publications: Google Scholar Link

EDUCATION

PhD in Mechanical Engineering *December 2025*
Texas A&M University, College Station, USA
Dissertation Title: Design, Modeling, and Nutational Instabilities of Soft Pendulum Driven Spherical Robots

B.S. in Mechanical Engineering *December 2021*
Texas A&M University, College Station, USA

Study Abroad - Engineering Mechanics *Summer 2019*
Arts et Métiers ParisTech, Aix-en-Provence, France

EXPERIENCE

Robotics and Automation Design Lab January 2022 - December 2025
Graduate Research Assistant *College Station, TX*

- Led a small team of grad students and engineers on the full-stack development of the RoboBall II prototypes from CAD assemblies in Solidworks to electrical wiring and crimping of components through weekly design reviews
- Patenting a novel outer shell manufacturing method used in the two and six-foot RoboBalls
- Led the control system design for the ball in Wpilib c++ and later ros2 using input filtering and LQR feedback regulation
- Iterated on the above bullets through constant field testing and redesign of the system.
- Led teams of 5, 3, and 2 undergraduates in the three summer programs, all resulting in 3 conference and a journal publications
- Collaborated with the Robotic Space Simulator team on the motion control two 7-dof Stewart platforms with UR-20 robotic arms
- Collaborated with external partners at Southwest Research Institute for the development of motion planning libraries
- authored updated versions of journal LaTeX templates to make lab publishing more streamlined

BakerRisk Engineering Consultants August 2020 - December 2020
Student Co-op, Blast Testing Group *San Antonio, TX*

- Destructive full-scale structural testing with Deflagration, Vapor Cloud, and Shock Tube methods
- Manufactured mounts for window specimens and piezoelectric pressure or force instrumentation
- Prioritized safety with no major injuries while working around debris fields with broken glass

Biomechanical Environments Laboratory January 2019 - May 2019
Undergrad Research Assistant *College Station, TX*

- Applied concepts of linear elastic theory in the development of a biaxial tissue testing platform
- Implemented the use of a novel fish hook – line technique on organic samples to reduce clamp stresses
- Presented final poster in a public research symposium

PATENT APPLICATIONS

Interior Molding Method for Construction of configurable Bead Locked Spherical Tires
U.S. Provisional Application No.: 63/940,051 *Filing Date: December 13, 2025*

TECHNICAL SKILL BUZZWORDS

Mechanical: SolidWorks ◇ Rapid Prototyping ◇ Machining ◇ Mechanism Design ◇ GD&T ◇ Dynamic Analysis ◇ Molding ◇ Hermetic Seals

Software: C++ ◇ Python ◇ MATLAB ◇ ROS2 ◇ Drake ◇ Linux ◇ Git/Github ◇ Docker ◇ LLM Support ◇ Energy Methods ◇ LaTeX

Electrical: Soldering ◇ Oscilloscopes ◇ Sensor Integration ◇ Cable Harness ◇ CAN/Ethernet Bus ◇ Battery Management Systems

Controls: PID ◇ Disturbance Rejection ◇ LQR ◇ Full-State Feedback Motion Planning ◇ State-Space Control ◇ Underactuated Systems

HONORS AND AWARDS

Best Presentation Award *September 2023*
OSU International Mechatronics Conference and Exposition, 2023

Senior Capstone: Best in MEEN *December 2021*
Texas A&M University, College Station, USA

TEACHING AND COUNSELING EXPERIENCE

Conference Paper Reviewer March 2025-October 2025
- UR 2025 and ICRA 2026 Conferences

Guest Speaker - MEEN 612 December 2024
Introduction to Robotic Manipulators *College Station, TX*
- Lecture Title: *Introduction to Simulating Robot Arms in pyDrake*

Guest Speaker - MEEN 689 December 2024
Intuitive and Counterintuitive Mechanisms *College Station, TX*
- Lecture Title: *Designing for Assembly: Lessons from RoboBall II Pendulum*

Grad Camp Counselor August 2022 - September 2022
Graduate Orientation Camp *College Station, TX*
- Assist incoming graduate students at introductory sessions to the university

Numerical Methods Helpdesk August 2019 - December 2019
Student Worker for MEEN 357 *College Station, TX*
- Assist students with Python code portions of projects and homework

Volunteer Teaching Assistant August 2018 - December 2018
Kinesiology 199 - Whitewater Kayaking *College Station, TX*
- One-on-one instruction and feedback on fundamental paddling techniques

Python Teaching Assistant August 2018 - December 2018
Student Assistant for Intro Engineering Course ENGR 102 *College Station, TX*
- Assisted in the instruction of freshman engineering students with the basics of coding in Python