Full Name: Shadi Haddad **E-mail:** shhaddad@ucsc.edu **Tel:** +1 (831) 332-1640

EDUCATION

- **PhD in Applied Mathematics** **Expected 2023**
  School of Engineering, University of California Santa Cruz

- **M.Sc. in Mechanical Engineering** **January 2018**
  College of Mechanical Engineering, University of Tehran, Tehran, Iran
  Thesis title: "Second order sliding mode tracking control of a piezoelectric tapered micro actuator with axial deflection and system nonlinearity"

- **B.Sc. in Mechanical Engineering** **July 2015**
  College of Mechanical Engineering, Chamran University of Ahvaz, Ahvaz, Iran

RESEARCH INTEREST

Uncertain dynamical systems, Control theory, Robotic.

SELECTED RESEARCH AND ACADEMIC ACTIVITIES

- Dynamic modeling and vibration analysis of mechanical and micro/nano electromechanical systems (MEMS)
- Regulation and tracking control for variable structural and nonlinear mechanical and micro-electro-mechanical systems
- Modeling and vibration analysis of piezoelectric micro-actuators
- Nonlinear finite element method programming
- Observer-based sliding mode controllers and fault detection
- Inverse and forward kinematics of robot manipulators

JOURNAL PAPERS

- Shadi Haddad, Abhishek Halder. "The Convex Geometry of Integrator Reach Sets" American Control Conference, 2019. (under review)
- M. Mousavi, M. Rahnavard, S. Haddad, "Observer based fault reconstruction schemes using terminal sliding modes," Accepted in International Journal of Control, 2018.
- S. Haddad, Sh. Siahpour, M. Moghimi Zand, "Dynamics behavior and stability of thin shallow micro shells considering the effect of squeeze film damping under electrostatic actuation," Submitted to Journal of Microsystem Technologies, 2018 (under review).
- S. Haddad, M. Baghani, "Analytical study on nonlinear 3D coupled deformations of tapered FG micro-beams accounting for size effects," submitted to Iranian Journal of Science and Technology (under review).

Talks And Poster presentation

Spot light talk and poster presentation "Understanding the Geometry of Integrator Reach Sets for Robotics Applications", Bay Area Robotics Symposium, University of California, Berkeley, 2019.

COMPUTER AND PROGRAMMING SKILLS

- **Programming Languages:** MATLAB (Programming and Simulink), MAPLE, C++, ARDUINO, Python
- **Software:**
  - **Engineering and Modeling:** SOLIDWORKS
  - **Simulation and Analysis:** ANSYS, ABAQUS, COMSOL
  - **Grid Generation:** ANSYS Meshing
  - **General:** MS-Word, MS-Excel, Latex