MILAD ALIPOUR SHAHRAKI

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RESEARCH INTERESTS

- Control Theory and Applications
- Adaptive Learning Control and Optimization
- Safety-Critical Control and Stability Analysis
- Artificial Intelligence and Machine Learning

EDUCATION

09/2022 - Present **Ph.D. in Electrical Engineering** | **Northeastern University**, Boston, MA
- **Faculty Advisor:** Dr. Laurent Lessard
- **Current GPA: 4.00**/4.00

09/2017 - 01/2020 **M.Sc. in Mechanical Engineering** | **University of Isfahan**, Iran
- **Thesis Title:** Active Fractional-Order Sliding Mode Control of Flexible Spacecraft Considering Actuators' Saturation
- **Faculty Advisors:** Dr. Maryam Malekzadeh and Dr. Alireza Ariaei
- **Honors:** Ranked **1st** in the class of Mechanical Engineering
- **CGPA: 3.88**/4.00

09/2013 - 07/2017 **B.Sc. in Mechanical Engineering** | **Fasa University**, Fars, Iran
- **Thesis Title:** Control Under External Disturbance Using Disturbance Observers
- **Faculty Advisor:** Dr. Mohamadreza Homayounzade
- **Honors:** Ranked **1st** in the class of Mechanical Engineering
- **CGPA: 3.59**/4.00

09/2009 - 06/2013 **Diploma in Mathematics and Physics** | **Sadi High School**, Isfahan, Iran
- **Honors:** Ranked **1st** in the class of Mathematics and Physics
- **CGPA: 19.30**/20

PUBLICATIONS

Journal Papers:

- **Milad Alipour**, Maryam Malekzadeh, and Alireza Ariaei, "Practical fractional-order nonsingular terminal sliding mode control of spacecraft," *ISA Transactions*, 2022. DOI: https://doi.org/10.1016/j.isatra.2021.10.022

- **Milad Alipour**, Maryam Malekzadeh, and Alireza Ariaei, "Active fractional-order sliding mode control of flexible spacecraft under actuators saturation," *Journal of Sound and Vibration*, 2022. DOI: https://doi.org/10.1016/j.jsv.2022.117110

- Mohamadreza Homayounzade, and **Milad Alipour**, "Output feedback adaptive control of dynamically positioned surface vessels: a disturbance observer-based control approach," *International Journal of Robotics and Automation*, vol. 34, no. 4, 2019. DOI: http://dx.doi.org/10.2316/J.2019.206-5572

Conference Papers:

- **Milad Alipour Shahraki** and Laurent Lessard, "Spacecraft Attitude Control Under Reaction Wheel Constraints Using Control Lyapunov and Control Barrier Functions," *The American Control Conference (ACC)*, 2025. (**Accepted**)

PROFESSIONAL ACTIVITIES AND SERVICE

Journal Reviewer:

- IEEE Transactions on Systems, Man, and Cybernetics: Systems (**Q1 - Impact Factor: 8.6**) (1)
- IEEE/ASME Transactions on Mechatronics (**Q1 - Impact Factor: 6.1**) (4)
- Aerospace Science and Technology (**Q1 - Impact Factor: 5.0**) (3)
- ISA Transactions (**Q1 - Impact Factor: 6.3**) (5)

- Control Engineering Practice (**Q1 - Impact Factor: 5.4**) (**1**)
- Automatica (**Q1 - Impact Factor: 4.8**) (**1**)

Conference Reviewer:
- L4DC 2025: 7th Annual Learning for Dynamics and Control Conference (**1**)
- CDC 2025: 64th IEEE Conference on Decision and Control (**1**)

AWARDS AND HONORS

University of Isfahan	- Faculty of Engineering scholarship as an **Exceptional Talent Student** for all semesters - Ranked **1st** in the class of Mechanical Engineering - Exempted from the National Ph.D. Entrance Exam (**Exceptional Talents Ph.D. Admission Offer:** This type of admission is offered to the top 3 M.Sc. students with the highest GPAs)
Fasa University	- Faculty of Engineering scholarship as an **Exceptional Talent Student** for all semesters - Ranked **1st** in the class of Mechanical Engineering - Exempted from the National M.Sc. Entrance Exam (**Exceptional Talents M.Sc. Admission Offer:** This type of admission is offered to the top 3 B.Sc. students with the highest GPAs)
Sadi High School	- High School scholarship as an **Exceptional Talent Student** for all years - Ranked **1st** in the class of Mathematics and Physics

LANGUAGES AND SKILLS

Languages	English (**Fluent**) (**TOEFL iBT: 104** - R: 27, L: 30, S: 27, W: 20) - Persian (**Native**)
Software Skills	Python - MATLAB and Simulink - LaTeX - C++ - Microsoft Office - LabVIEW - SolidWorks - AutoCAD - Adobe Photoshop
Operating Systems	MacOS - Microsoft Windows - IOS - Android
Hardware Skills	PC Hardware Assembly - Electromechanical Systems' Repair and Upgrade

RESEARCH EXPERIENCE

Research Assistant	**Lessard's Research Group** | **Northeastern University**, Boston, MA - Instructor: Dr. Laurent Lessard
Research Assistant	**Mechatronics Lab** | **University of Isfahan**, Iran - Instructor: Dr. Maryam Malekzadeh

TEACHING EXPERIENCE

Teaching Assistant	Industrial Drawing - Statics - Instructor: Dr. Reza Vaghefi
Private Tutor	Physics - Mathematics - Algebra - Geometry - English Language

ADDITIONAL ACTIVITIES AND HOBBIES

- Watching Documentaries, Series, and Movies
- Playing Billiard, Snooker, and Chess

FURTHER INFORMATION AND REFERENCES ARE AVAILABLE UPON REQUEST.