

Curriculum Vitae



Seyed Hamed Hashemi

12/12/2025

Assistant Professor

Faculty of Electrical Engineering, Shahrood University of Technology,
Shahrood, Iran

Email: H_Hashemi@shahroodut.ac.ir, hamedhashemi1371@gmail.com

Urls: <https://scholar.google.com/citations?hl=en&user=aV6uiuIAAAAJ>

<https://orcid.org/0000-0003-2780-5709>

<https://www.linkedin.com/in/seyed-hamed-hashemi-2666b9187/>

Short Bio

Seyed Hamed Hashemi is an Assistant Professor in the Faculty of Electrical Engineering at Shahrood University of Technology, Iran. He received his B.Sc. degree in Electrical Engineering–Control from Babol Noshirvani University of Technology in 2014, his M.Sc. degree in Electrical Engineering–Control from Shahrood University of Technology in 2017, and his Ph.D. degree in Electrical Engineering–Control from Ferdowsi University of Mashhad in 2021.

From 2022 to 2025, he was a Postdoctoral Research Fellow at Tampere University, Finland, affiliated with the Automation Technology and Mechanical Engineering Unit within the Faculty of Engineering and Natural Sciences. His research interests include stability analysis, nonlinear and hybrid systems, control theory, observer design, and simulation, with applications in power systems and robotics. His research particularly focuses on vision-based control and simultaneous localization and mapping (SLAM).

Education

Ferdowsi University of Mashhad	2018-2021
--------------------------------	-----------

Ph.D., Electrical Engineering-Control, GPA: 4/4.

Dissertation title: *A new strategy for robust global stabilization of nonlinear systems with vector bundle state space.*

Supervisors: Prof. Naser Pariz, and Prof. Seyed Kamal Hosseini Sani.

Shahrood University of Technology	2015-2017
-----------------------------------	-----------

M.Sc., Electrical Engineering-Control, GPA: 3.53/4.

Dissertation title: *Passive target tracking using Doppler frequency and bearing angle measurements.*

Supervisor: Prof. Alireza Alfi.

Babol Noshirvani University of Technology	2010-2014
---	-----------

B.Sc., Electrical Engineering-Control, GPA: 3.12/4.

Curriculum Vitae

Professional Positions

Assistant Professor

2025

Faculty of Electrical Engineering, Shahrood University of Technology, Shahrood, Iran

Postdoctoral Research Fellow

2022-2024

Tampere University

Research title: *High precision autonomous mobile manipulators for future digitalized construction sites*

Supervisor: Prof. Jouni Mattila.

Projects as Single/Lead PI

Doppler-bearing passive target tracking, Ferdowsi University of Mashhad, 2021

Publications

S. H. Hashemi and J. Mattila, "Hybrid Controller for Robot Manipulators in Task-Space With Visual-Inertial Feedback," in *IEEE Transactions on Control Systems Technology*, doi: <https://doi.org/10.1109/TCST.2025.3631985>

Hashemi S. H., Pariz N. and Sani S. K. H., "Observer-Based Adaptive Hybrid Feedback for Robust Global Attitude Stabilization of a Rigid Body," in *IEEE Transactions on Aerospace and Electronic Systems*, vol. 57, no. 3, pp. 1919-1929, June 2021, doi: <https://doi.org/10.1109/TAES.2021.3050665>

Seyed Hamed Hashemi, Farrokh Janabi-Sharifi, Amir Jalali, "Robust Global stabilization of aerial continuum manipulation systems via hybrid feedback", *ISA Transactions*, 2023, <https://doi.org/10.1016/j.isatra.2023.03.021>

Seyed Hamed Hashemi, Naser Pariz & Seyed Kamal Hosseini Sani (2023) Observer-based hybrid control for global attitude tracking on SO(3) with input quantisation, *International Journal of Control*, 96:5, 1352-1363, doi: <https://doi.org/10.1080/00207179.2022.2043564>

S. H. Hashemi and J. Mattila, "Global Asymptotic Convergent Observer for SLAM," in *IEEE Access*, vol. 10, pp. 122414-122422, 2022, doi: <https://doi.org/10.1109/ACCESS.2022.3221524>

Hashemi S. H., Pariz N., Hosseini Sani S.K. "Global exponential stabilization of a quadrotor by hybrid control". *Transactions of the Institute of Measurement and Control*. 2021; 43 (10) : 2345-2357. doi: <https://doi.org/10.1177%2F0142331221996969>

Hashemi, S. H., and A. R. Alf. "Doppler and bearing tracking using fuzzy adaptive unscented Kalman filter." *Iranian Journal of Fuzzy Systems* 16.4 (2019): 97-114. doi: <https://dx.doi.org/10.22111/ijfs.2019.4785>

Curriculum Vitae

Seyed Hamed Hashemi and Naser Pariz (2021): Adaptive Transformed Unscented Simplex Cubature Kalman Filter for Target Tracking, *IETE Journal of Research*, doi: <https://doi.org/10.1080/03772063.2021.1919223>

Hashemi, S. H., and A. R. Alfi. "Doppler and Bearing Tracking using Adaptive Modified Covariance Extended Kalman Filter." *Journal of Control* 12.4 (2019): 23-33. doi: <http://dx.doi.org/10.29252/joc.12.4.23>

Conference presentations

S. H. Hashemi and J. Mattila, "Safety-guaranteed Virtual Decomposition-based Control of Robot Manipulators using Visual Feedback," 2024 IEEE-RAS 23rd International Conference on Humanoid Robots (Humanoids), Nancy, France, 2024, pp. 396-401, doi: <https://doi.org/10.1109/Humanoids58906.2024.10769932>

S. H. Hashemi and N. Pariz, "Hybrid Control for a Boost DC-DC Converter with Average Dwell Time," 2021 12th Power Electronics, Drive Systems, and Technologies Conference (PEDSTC), 2021, pp. 1-5, doi: <https://doi.org/10.1109/PEDSTC52094.2021.9405937>. (IEEE)

S. H. Hashemi, N. Pariz and S. K. Hosseini Sani, "Quaternion-based Hybrid Feedback for Global Asymptotic Attitude Stabilization on S³," 2021 7th International Conference on Control, Instrumentation and Automation (ICCIA), 2021, pp. 1-5, doi: <https://doi.org/10.1109/ICCIA52082.2021.9403607>. (IEEE)

Seyed Hamed Hashemi, and Alireza Alfi. "Doppler and Bearing Tracking using Fuzzy Extended Kalman Filter." 4th National and 2th International Conference on Applied Research in Electrical, Mechanical and Mechatronics Engineering, Tehran, 2017.

Manuscripts in preparation/submitted for review

Hashemi, Seyed Hamed, and Jouni Mattila. "Task Space Control of Robot Manipulators based on Visual SLAM." *arXiv preprint arXiv:2302.04163* (2023). Submitted to *IEEE Transactions on Control Systems Technology*

Teaching Experience

Hybrid dynamical system	Ferdowsi University of Mashhad	Spring (2020)
Modern control theory	Ferdowsi University of Mashhad	Fall (2020)
Engineering Mathematics	Shahrood University of Technology	Spring (2025)
Introduction to C++	Shahrood University of Technology	Spring (2025)

Curriculum Vitae

Skills

Programmable Logic Controller (PLC), Matlab, Evolutionary algorithms in optimization, Latex, C++

Awards & Fellowships

Selected as a final qualified candidate at the Texas State University, Texas, USA, for a Postdoctoral Research Fellow program.

Selected as a final qualified candidate at the Toronto Metropolitan University, Toronto, Canada, for a Postdoctoral Research Fellow program.
