

Mahdi Alinaghizadeh Ardestani

PERSONAL DATA

Date of Birth: July 31, 1977

Nationality: Iranian

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Languages: Persian (Mother Tongue) – English (Work & Education)

EDUCATION

۱- **Ph.D.:** Tarbiat Modares University, Faculty of Engineering, Electrical and Computer Dept., Control Engineering, Tehran, Iran, 2003-2010

Thesis Title: "Robust congestion control of Differentiated Services networks"

۲- **M.Sc.:** Tarbiat Modares University, Faculty of Engineering, Electrical and Computer Dept., Control Engineering, Tehran, Iran, 2000-2003

Thesis Title: "Modeling, simulation and design of control logic for Clean in Place of pasteurized milk factory"

۳- **B.Sc.:** Khajeh Nasir Toosi University of Technology, Faculty of Electrical Engineering, Electronic Engineering, Tehran, Iran, 1996-2000

Project Title: "Design and implement of voice and network card for voice chat application"

EXECUTIVE AYNOPSYS

- Highly accomplished professional with over 18 years of multifaceted experiences in high education (post and under graduate study)
- Creative and effective management skills. Flexible and efficient working with changing priorities and diverse audiences.
- Three years' experience in design, development and evaluation of curricula, programs, and instructional robots. Strong commitment to quality in all aspects of work.
- Able to navigate through complex issues and conceive of solutions leading to cooperation between disparate groups and individuals.
- Adept at working in high-pressure environments with strict deadlines.

SKILLS

- Artificial Intelligence
- Robotics and Machine Vision
- Modeling and Simulation
- Control Theory
- Python and C++ programing
- Solar Energy

ACADEMIC PROFESSIONAL EXPERIENCE

Assistant Professor, Technical and Vocational University, Tehran, Iran, (Feb 2017 - Present)

- Instructor of several electrical engineering undergraduate courses.
- Supervisor of graduate students.
- Executive chair of 11th International Conference on Control, Instrumentation and Automation (ICCIA2025)
- Financial and Administrative Deputy of Tehran Province, Enghelab Eslami Technical College, (Jan 2023 – 2024)
- Founder and director of the Artificial Intelligence and Control Engineering Research (AICER) laboratory (2023- now)
- Secretary and member of information technology committee Tehran Province, (Dec 2022 – present)
- Research Deputy, Shamsipour Technical College, (Jun 2021-Jan 2023)
- Member of university steering committee, Head Office, (Apr 2019 – Apr 2021)
- Member of committee for examining the scientific background of applicants to recruiter academic staff in electrical engineering, Head Office, (Aug 2018 – Aug 2020)
- Information Technology General Manager, Head Office, (Feb 2018 –Jun 2020)
- Member of publishing council, Head Office, (Mar 2018 – Mar 2020)
- Member of the editorial board in the Karafan quarterly scientific journal, Head Office, (Mar 2018 – Mar 2020)
- University research council member, Head Office, (Jun 2018 –Jun 2020)
- College Dean, Qom technical college, (Sep 2014 -Feb 2018)

Assistant Professor, Qom University of Technology, Qom, Iran, (Feb 2012 - Feb 2017)

- Instructor of several electrical engineering undergraduates and graduate courses.
- Supervisor of graduate and undergraduate students.
- Head of Robotics team in national and international robotics competitions (Nov 2013 – Nov 2015)
- Director general of higher education and training (Sep 2013 – Sep 2014)
- Director of the control engineering department (Mar 2012 – Sep 2013)
- Founder and director of advanced industrial automation laboratory (2013)

Lecturer, Qazvin Islamic Azad University, Qazvin, Iran, (Feb 2006 – Jul 2015)

- Teaching Control and Electronic Courses such as Linear Control Systems, Industrial Control Systems, Linear Algebra, Modern Control System, Instrumentation, Robust Control, Nonlinear Control.
- Supervisor of post graduate students.

PROFESSIONALEXPERIENCE

Artificial Intelligence and Control Engineering Research Lab. (AICER), NUS, Tehran, Iran (2022-present)

- Design and development of an image processing-based biomonitoring system for toxin detection in drinking water
- Design and development of a Predictive Fault Diagnosis System for Motors Using Sound and Vibration Analysis
- Design and Implementation of an Image-Tracking Robot with Three Degrees of Freedom
- Design and Implementation of a Pick-and-Place Robot for Electronic Board Assembly Applications
- Design and Implementation of an Oxygen Concentration Monitoring and Control System for Hospital Applications
- Design and Construction of an Autonomous Underwater Robot for 12-Meter Depths
- Design and Implementation of an Effluent Treatment Plant Monitoring and Control System with Focus on Biological and Chemical Contaminants

FitInsured Startup, Tehran, Iran

- Design Backend and AI section (202۴)

BDOOD (The first bike sharing company in middle east), Tehran, Iran

- Implement customer segmentation and RFM analysis with K-means clustering methods (2022)
- Implement costumers' national ID card recognition with deep learning (2022)
- Implement fraud detection system with machine learning clustering method (2021)
- Implement recommender system for bike rebalancing with AI (2020)
- Implement business intelligence dashboard with Microsoft Power BI on Oracle database (2019)
- Implement automatic identification of high-risk riders of shared bicycles using artificial intelligence in geospatial data (2019)

Persia Telecom (Iranian Offshore Engineering and Construction Company (IOEC)) , Tehran, Iran

- CEO advisor (2012-1015)

Fanap, Tehran, Iran

- CEO advisor (2010-1012)

Arvand Free Zone, Abadan, Iran

- Planning Deputy (2008-2010)

Iran Telecommunication Research Center, Tehran, Iran

- “RFP for national telephony network for change to NGN”, Project Manager (2006)
- Strategic planning for export ICT technical services to meddle east and CIS countries”, Project manager, Project Owner: Iran communication ministry ((2006)
- “Study and development of a pilot system to analyze communication network problems”, Project observer (2006)
- “Access layer design for change Iran telecommunication platform to NGN”, Project observer (2006)
- “QoS requirements for change Iran telecommunication platform to NGN”, Project observer (2006)
- “Core routers, MPLS and Fiber Backbone requirements for change Iran telecommunication platform to NGN”, Project observer (2006)
- “Management and security platform requirements for change Iran telecommunication platform to NGN”, Project observer (2006)
- “High-speed telephony switch backbone design and Implement”, Project manager (2004)
- “Network Performance Evaluation Laboratory”, Laboratory Manager (2004-2005)
- “ATM switches design and development”, Hardware engineer (2003)

HONORS, AND AWARDS

- The best researcher award, Shamsipour Technical College, 2021
- Vice Champion of the Student Category at the FIRA Roboworld Cup, 2019
- The best researcher award, Qom University of Technology, 2014
- The best researcher award, Qom University of Technology, 2013
- Received scholarship from Iran Telecommunication Research Centre (ITRC) for Ph.D. thesis, 2007
- Ranked First in Entrance Ph.D. Exam of Control Engineering at Tarbiat Modares University, 2003
- Ranked 1170th among more than 420000 participants in the Iranian nationwide university entrance exam, 1995

Selected Supervised Thesis

- Mohsen Asgari, “Modeling and control of a Spatial Parallel Robot for medical applications”, Qazvin Islamic Azad University, 2011
- Shervin Tashakory, “Robust controller design for Quadrotor”, Qazvin Islamic Azad University, 2012
- Hatef Eshghi, “Robust control design for teleoperation applications with time delays”, Qazvin Islamic Azad University, 2013
- Hosein Taher, “Multi-agent formation control design for unmanned underwater vehicles”, Unmanned underwater vehicles, 2014
- Farnood Niaki, “Robust stability control design for four-wheeled vehicles using T-S Fuzzy”, Qazvin Islamic Azad University, 2014
- Narges Aghaie, “Formation control design for nonlinear robots using T-S Fuzzy”, Qazvin Islamic Azad University, 2015
- Sepideh latifi, “Optimal control design for HVAC system”, Qom University of Technology, 2016
- Elham Fadaie, “Solving finite horizon H_∞ control problem using Adomian Decomposition Method”, Qom University of Technology, 2016
- Hamid Taheri, “Optimal adaptive control design for wind turbines using reinforcement learning methods”, Qazvin Islamic Azad University, 2016
- Ramin Panahizadeh, “Algorithm of assignment of tasks to formation control and assignment of roles in multi-robot systems”, Qazvin Islamic Azad University, 2016
- Amir Katani, “Fuzzy sliding mode controller design based on colonial competition optimization algorithm for autonomous underwater robot control”, Qazvin Islamic Azad University, 2017
- Hesam Mazaheri, “Designing a fuzzy sliding controller for the X-Y pedestal in order to track the LEO satellite”, Qazvin Islamic Azad University, 2017
- Arezoo Vakil, “Robust control design for delay-based HVAC system”, Qom University of Technology, 2017
- Amir Shirvani, “Fractional order fuzzy PID controller design using evolutionary algorithm for active car suspension system”, Qazvin Islamic Azad University, 2018
- Ehsan Badfar, “Robust control design for radius control of bubble in the blood vessel”, Qom University of Technology, 2019

PUBLICATIONS

JOURNAL PAPERS:

۱. M. A. Ardestani and Mohammad T. H. Beheshti, “A Robust Discrete-Time Controller for delay-sensitive applications”, IEICE Electron. Express, Vol. 6, No. 22, pp.1548-1555, 2009
۲. M. A. Ardestani and M. T. H. Beheshti, "A robust Active Queue Management for delay-sensitive Internet Traffic", Iranian Journal of Control, Vol. 3, No. 3, pp. 9-21, 2009
۳. Fakharian, F. Jamshidi, M. T. H. Beheshti and M. A. Ardestani, “Switching H_2/H_∞ Control of Singular Perturbation Systems”, Australian Journal of Basic and Applied Sciences, Vol. 3, No. 4, pp. 4243-4252, 2009
۴. Mohsen Asgari, M. A. Ardestani, “Dynamics and improved computed torque control of a novel medical parallel manipulator: applied to chest compressions to assist in cardiopulmonary resuscitation”, Journal of Mechanics in Medicine and Biology, Vol 15, Issue 04, pp. 1550051, 2015
۵. M. A. Ardestani, “Delay Based Robust H_∞ Control Algorithm for TCP Networks Congestion Control to Disturbance Attenuation”, International Journal of Control and Automation, Vol. 9, No.11, pp. 77-82, 2016
۶. E. Badfar, M. A. Ardestani, “Utilizing sliding mode control for the cavitation phenomenon and using the obtaining result in modern medicine”, SN Appl. Sci. Vol. 1, 1419, 2019
۷. E. Badfar, M. A. Ardestani, “Robust versus optimal control for the radius of spherical bubble in a perfect incompressible liquid, LMI optimization approach” Int. J. Dynam. Control, Vol. 8, pp. 497–

507, 2020

۸. E. Badfar, M. A. Ardestani, M. T. Beheshti, "Robust Nonsingular Terminal Sliding Mode Control of Radius for a Bubble Between Two Elastic Walls", J Control Autom Electr Syst, Vol. 31, pp. 283–293, 2020
۹. M. A. Ardestani, A. Vakili, "Output feedback Controller design for HVAC system with delayed based Robust control approach", Karafan Journal, Vol. 17, No. 1, pp. 89-99, 2020
۱۰. E. Badfar, M. A. Ardestani, "Design of adaptive fuzzy gain scheduling fast terminal sliding mode to control the radius of bubble in the blood vessel with application in cardiology", Int. J. Dynam. Control, 2021
۱۱. Badfar, E., Ardestani, M. & Najafi, M. Design of robust fractional-order sliding mode with fuzzy supervisor to control the nonlinear oscillation of two interacting bubbles. Int. J. Dynam. Control , 2023
۱۲. Ardestani, M, Mohammadi, Z, Performance Evaluation and Optimization of ZigBee in Different Applications in Smart Grid, Journal of Engineering and Applied Science, 2025
۱۳. Ardestani, M, Mohammadi, P. Designing a Rehabilitation Traction device for decreasing low back pain and spinal decompression by improving traction control, International Journal of Industrial Electronics, Control and Optimization, 2025

SELECTED CONFERENCE PAPERS:

۱. M. A. Ardestani and M. T. H. Beheshti, "A robust discrete-time controller for delay sensitive applications", in Information, Communications and Signal Processing, 2009. ICICS 2009. 7th International Conference on, pp. 1-6, 2009.
۲. Mohsen Asgari and Mahdi. A. Ardestani, "Advanced Dynamic Path Control of a 3-DOF Spatial Parallel Robot using Adaptive Neuro Fuzzy Inference System, The 18th annual Conference on Mechatronics and Machine Vision in Practice, Brisbane, 2011.
۳. M. Asgari, H. Sadjadian and Mahdi. A. Ardestani, "Forward and Inverse Kinematics Structure Design and Workspace Analysis of a Spatial Parallel Robot", 3rd International Conference on Manufacturing Engineering, ICME2011, Tehran, Iran, December 2011.
۴. Mahdi. A. Ardestani and Mohsen Asgari, "Modeling and Analysis of a Novel 3-DoF Spatial Parallel Robot", 19th annual Conference on Mechatronics and Machine Vision in Practice, Auckland, 2012.
۵. Mahdi. A. Ardestani and Shervin Tashakory, "Robust H_∞ Attitude Controller Design of a Quadrotor for Disturbance Attenuation", 19th annual Conference on Mechatronics and Machine Vision in Practice, Auckland, 2012.
۶. M. Asgari, Mahdi. A. Ardestani, Mehرداد Asgari, "Dynamics and Control of a Novel 3-DOF Spatial Parallel Robot", the First RSI/ISM International Conference on Robotics and Mechatronics, ICRoM2013, Tehran, Iran, 2013.
۷. Mahdi A. Ardestani, A. Fakharian, "Consensus in Multi-Agent Networked System Using Adaptive Neuro-Fuzzy Inference System", 13th Iranian Conference of Fuzzy systems, Iran, 2013
۸. M. Asgari, Mahdi A. Ardestani, "Trajectory tracking control of a class of lower mobility parallel manipulators using ANFIS", 13th Iranian Conference of Fuzzy systems, Iran, 2013
۹. Mahdi A. Ardestani, M. Beheshti, M. Najafi, "Time Delay Robust AQM for Internet Congestion Control", the 3rd International Conference on Control, Instrumentation and Automation, Iran, 2013
۱۰. S. Rezazadeh, Mahdi A. Ardestani, P. Shahidi, "Optimal Attitude Control of a Quadrotor UAV Using Adaptive Neuro-Fuzzy Inference System (ANFIS)", The 3rd International Conference on Control, Instrumentation, and Automation, Iran, 2013
۱۱. M. Asgari and Mahdi A. Ardestani, "Singularity analysis of a novel three translational DoF parallel robot considering kinematic asymmetric property", Second RSI/ISM International Conference on Robotics and Mechatronics (ICRoM), 2014
۱۲. N. Aghaie, M. A. Ardestani, "Takagi-Sugeno Fuzzy Formation Control of Nonholonomic Robots", 4th International Conference on Control, Instrumentation, and Automation (ICCIA), 2016
۱۳. Mahdi. A. Ardestani, Peyman Mirzaie, "Robust controller design for an unmanned submarine", 1st

International Conference on Applied Research in Electrical Engineering, Mechanical and Mechatronics, 2016

۱۴. S. M. Dehghan, M. A. Ardestani, "Solar Charger System With LED Driver Using Capacitor-Less Multi-Port Converter," 7th Power Electronics, Drives Systems, and Technologies Conference (PEDSTC), 2016

۱۵. M. Moradi, M. Keyvanpour, M. A. Ardestani, M. Moradi, "Applications of data mining in robotics", Artificial Intelligence and Robotics (IRANOPEN), 2016

۱۶. M. Moradi, M. A. Ardestani and M. Moradi, "Learning decision making for Soccer Robots: A crowdsourcing-based approach," 2016 Artificial Intelligence and Robotics (IRANOPEN), Qazvin, 2016

۱۷. P. S. Sadeghi, A. M. Shahri, M. A. Ardestani, and S. Rezazadeh, "LQG-I control for attitude stabilization of V8 octocopter flying robot," 2016 Artificial Intelligence and Robotics (IRANOPEN), Qazvin, 2016

۱۸. Alinaghizadeh Ardestani, Mahdi and Mohammadi, Zhila, Application of artificial intelligence in different sciences, The 9th International Conference on Applied Research in Basic Sciences, Engineering and Technology, 2023

۱۹. Alinaghizadeh Ardestani, Mahdi and Mohammadi, Zhila, Electromagnetic waves and body tissues, The 9th International Conference on Applied Research in Basic Sciences, Engineering and Technology, 2023

۲۰. Alinaghizadeh Ardestani, Mahdi and Mohammadi, Zhila, New technologies of language processing, The 2nd National Conference of New Business on Electrical and Computer, 2024

۲۱. Alinaghizadeh Ardestani, Mahdi and Mohammadi, Zhila, The importance of renewable energy sources, the seventh International Conference on Technology Development in Chemical Engineering, 2024

۲۲. Alinaghizadeh Ardestani, Mahdi and Mohammadi, Zhila, An Introduction To Natural Language Processing, As A Subset Of Artificial Intelligence, 13th International conference on innovative technologies in the field of science, engineering and technology, 2024

۲۳. Alinaghizadeh Ardestani, Mahdi and Mohammadi, Zhila, A Fuzzy Expert System Design for Diagnosis of Diseases, 22th International Conference on Information Technology, Computer and Telecommunication, 2024

۲۴. Alinaghizadeh Ardestani, Mahdi and Mohammadi, Zhila, Comparison of Speech Enhancement Algorithms in order to improve speech quality, 22th International Conference on Information Technology, Computer and Telecommunication, 2024

۲۵. Alinaghizadeh Ardestani, Mahdi and Mohammadi, Zhila, Word sense disambiguation algorithms by artificial intelligence, 22th International Conference on Information Technology, Computer and Telecommunication, 2024

Book Chapters

۱. M Asgari, M A Ardestani, Advanced Dynamic Path Control of a 3-DOF Spatial Parallel Robot Using Adaptive Neuro-Fuzzy Inference System, Machine Vision and Mechatronics in Practice, 225-237, Springer, 2015

۲. M Asgari, M. A Ardestani, Dynamic Modeling and Control of a Novel Parallel Manipulator Using Supervisory Approach, Machine Vision and Mechatronics in Practice, 149-163, Springer, 2015

Book:

B. Rahmati, M. A. Ardestani, et al, "Enterprise Open-source Software" (in Persian)