

Masoud GOHARIMANESH (Last update: MARCH, 2016)

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Married

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## EDUCATION

PhD Mechanical Engineering, Dynamics and Control, Ferdowsi University of Mashhad, Mashhad, Iran

PhD student Since 2011, GPA:18.25/20

Estimated Graduation: April 2016

Thesis: Backing up Enhancement of Multi Articulated Vehicles Using Fuzzy Reinforcement Learning

Supervisor: Professor Ali Akbar Akbari

Advisor: Professor Mohammad Bagher Naghibi Sistani

MSc Automotive Engineering, Vehicle Dynamics, IRAN University of Science and Technology, Tehran, Iran

GPA: 3/4(2008-2011)

Thesis: Enhancement of Lateral Vehicle dynamic Using Tire inflation Pressure

Supervisor: Professor Behrooz Mashadi

BSc Mechanical Engineering, Solid Mechanics, Islamic AZAD university, Mashhad branch, Mashhad, Iran, GPA:3/4(2002-2006)

Thesis: Bearing Vibration Analyzing using Wavelet Theory

Supervisor: Professor Behrooz Lotfi

Research interest

Mechanical Engineering Control Engineering Bio- Engineering  
Micro/Nano Fluidics Devices Nonlinear Dynamics Control Artificial Intelligence  
Autonomous Vehicles Reinforcement Learning Modeling Biological Systems  
Vehicle Dynamics Simulation & Robotics Cancer Therapy Methods  
Image Processing Control Theories Hypertension Control  
CAD/ /CAM Neural Networks Cognitive Sciences  
Quadrotors Programming Image Processing  
DOE Fuzzy Diabetics

## Language

- Farsi: Mother Tongue
- English: Fluent
- Arabic: Intermediate
- French: Under Intermediate

## Awards

- Earned Excellence Award for the best paper at NSME conference at Khomeinishahr University, Isfahan, Iran, 2009
- .selected as an editor of automotive engineering course contents at University of Applied Science and Technology since 2012 to 2013.

## Hobbies

Poetry (<http://goharimanesh.blogfa.com>)

Making engineering education videos ([www.aparat.com/goharimanesh](http://www.aparat.com/goharimanesh))

## References

- Dr. Behrooz Lotfi, Email: [behroozlotfi@mshdiau.ac.ir](mailto:behroozlotfi@mshdiau.ac.ir)
- Dr. Aliakbar Akbari, Email: [akbari@um.ac.ir](mailto:akbari@um.ac.ir)
- Dr. Mohammad Bagher Naghibi, Email: [mb-naghibi@um.ac.ir](mailto:mb-naghibi@um.ac.ir)
- Dr. Alireza Akbarzadeh Tootoonchi, Email: [ali\\_akbarzadeh@um.ac.ir](mailto:ali_akbarzadeh@um.ac.ir)
- Dr. Behrooz Mashadi, Email: [b\\_mashadi@iust.ac.ir](mailto:b_mashadi@iust.ac.ir)

## Journal Papers

Submitted M. Goharimanesh, et al., "A new free-model controller for Ionic Polymer Metal Composites using fuzzy reinforcement learning,"

Submitted A. Lashkaripour, A. Abouei Mehrizi, M. Goharimanesh , M. R. Rasouli, "A New Generalized Linear Model for Microfluidic Flow Focusing Droplet Generation and Optimization of its Parameters for Single DNA Molecule Droplets,

Under Review S. M. Javid M. Passandideh-Fard, A. Faezian b, M. Goharimanesh,"Slug and bubble flows in a flat sheet ultrafiltration module: experiments and numerical simulation.

Under Review Zolfaghari, A. A. Akbari , M. Goharimanesh , "Optimum design of straight bevel gears pair using simulated annealing algorithm"

Published M. Goharimanesh, A. A. Akbari, B. Lotfi, "On Using Fuzzy Reinforcement Learning to Control the Cancer Cells", Journal of Cellular Immunotherapy, vol. 1, No.1-2, pp. 34-35.

Under Review M. Goharimanesh, A. R. Riahi, A. Lashkaripour, A. A. Akbari, "Tire Inflation Pressure Estimation Using Identification Techniques"

Under submission M. Goharimanesh, S.M. Javid, S. Razaivi-Bazaz, H. Rostami, A.A. Akbari, "Ice Accretion Minimizing Using Taguchi Method," Journal of Wind Engineering and Industrial Aerodynamics.

Under Review M. Goharimanesh, A. A. Akbari, "Fuzzy Reinforcement Learning Strategy for Backing Truck up," International journal of fuzzy systems.

Published M. Goharimanesh, A. Lashkaripour, A. A. Akbari, "Optimization of Bio Diesel Production using Multi-Objective Genetic Algorithms," Journal of Applied Science and Engineering. Vol. 19, No. 1, pp.??, 2016.

Under Review M. Goharimanesh, A. A. Akbari, "Vehicle dynamics improvement using differential brake based on quantitative feedback theory," Journal of structures and fluids.

Under Review M. Goharimanesh, A. A. Akbari, "Improving Lateral Dynamics of Vehicle Using Direct Yaw Moment Controller Based on Quantitative Feedback Theory," International journal of science and technology.

Published M. Goharimanesh, A. Lashkaripour, A. A. Akbari, "A Comparison of Fuzzy Type 1 and 2 in Diabetics Control Based on Augmented Minimal Model," Journal of World's Electrical Engineering and Technology, Vol. 4, No. 2, 70-75, 2015

Accepted M. Goharimanesh, A. R. Riahi, A. Lashkaripour, A. A. Akbari, " Tire Inflation Pressure Estimation Using Identification Techniques," International Journal of Software Engineering and Its Applications.

Accepted M. Goharimanesh, A. R. Riahi, A. A. Akbari, "A comprehensive comparison of classical and modern controllers in the steam level of a power plant," International Journal of Control and Automation.

Published A. Lashkaripour, A. Abouei Mehrizi, M. Rasouli, and M. Goharimanesh, "Numerical Study of Droplet Generation Process in a Microfluidic Flow Focusing," Journal of Computational Applied Mechanics, vol. 46, pp. 167-175, 2015.

Published M. Goharimanesh, A. A. Akbari, "Optimum Parameters of Nonlinear Integrator Using Design of Experiments Based on Taguchi Method," Journal of Computational Applied Mechanics, vol. 46, pp. 231-241, 2015. .

Published Mo. Goharimanesh, F. Ghasemzadeh, M. Goharimanesh, "Influential Feeding Dynamics of Sharks and Mathematical Formulas to Estimate the Power of Biting by Morphological Data," Journal of Progress in Biological Sciences, Vol. 5, No. 2, 195-205, 2015.

Published Abbasi Jannatabad, S. Akhlaghi Amiri, M. Goharimanesh, A. A. Akbari, "Vehicle Model Recognition Using Image Processing and Wavelet Analysis," International Journal On

Smart Sensing and Intelligent Systems, Vol. 8, No. 4, pp. 2212-2230, 2015.

Published M. Goharimanesh, A. A. Akbari, M. B. Naghibi Sistani, "Combining the principles of fuzzy logic and reinforcement learning for control of dynamic systems," Journal of Applied and computational sciences in mechanics, Vol. 27, No. 1, pp. 103-116, 2016.

Published M. Goharimanesh, A. Lashkaripour, and A. Abouei Mehrizi, "Fractional Order PID Controller for Diabetes Patients," Journal of Computational Applied Mechanics, Vol. 46, pp. 69-76, 2015.

Published H .R. Honardoost, G. Paygane, M. NouriKhajavi, M. Goharimanesh, "Gearbox Fault Detection Using Wavelet Transform and ANFIS," International Journal of Artificial Intelligence and Mechatronics Vol. 2, No. 5, pp. 152-155, 2014.

Published M. Goharimanesh, A. Lashkaripour, S. Shariatnia, A. A. Akbari, "Diabetic Control using Genetic Fuzzy-PI Controller," International Journal of Fuzzy Systems, Vol. 16, No. 2, June 2014.

Published M. Goharimanesh, A. A. Akbari, A. R. Akbarzadeh-T, "More Efficiency in Fuel Consumption Using Gearbox Optimization Based on Taguchi Method," Journal of Industrial Engineering International 10 (2), 1-8 (DOI: 10.1007/s40092-014-0061-y), 2014.

#### Conference Proceedings

Submitted M. Goharimanesh, A.A. Akbari, "Enhancing the Vehicle Stability via Intelligent Active Geometry Suspension Using Fuzzy Reinforcement Learning", AVEC2016

Submitted M. Zarif, M. Ahmadi, M.Goharimanesh, "Direct Yaw Moment Control Using Fuzzy Genetic Algorithm", AVEC2016

Submitted M. Goharimanesh, et al., "How Design of experiments based on Taguchi method can improve microfluidic studies", the first national microfluidic conference.

Oral M. Ahmadi, N. Raeisian, M. Zarif, M. Goharimanesh, "Optimized Regenerative Brake System Using Genetic Algorithm", ICTCK2015.

Oral M. Goharimanesh, A. A. Akbari, "Cellular automata in life engineering," The 2nd Congress of Cytotechnology and its Applications, Mashhad, Iran, 20-21 October, 2015.

Poster M. Goharimanesh, Behrooz Lotfi, "Investigation of two cancer drugs dosage in decreasing of cell population," Nastaran Symposium Proceeding, 2015.

Poster M. Goharimanesh, A.A. Akbari, "On using fuzzy reinforcement learning to control the cancer cells," Nastaran Symposium Proceeding 2015.

Oral B. Lotfi, M. Goharimanesh, L .Huang, "Investigation of Changing of Center of Gravity in Quadrotor Maneuvers," Advanced Intelligent Mechatronics (AIM), 2015 IEEE International Conference.

Oral M. Goharimanesh, M. Salari, "Anti-Lock Brake system control using quantitative feedback theory," National Conference of Electrical Engineering, Kermanshah, Iran, 2015

- Poster M. Goharimanesh, M. Salari, "Investigation of tire inflation pressure on the fuel consumption ( a case study)," National Conference of Engineering, Tonekabon, Iran, 2015.
- Oral F. YazdaniMoghaddam M. Goharimanesh, "Introducing a new Comprehensive Applied Geometric Morphometrics Tool-Box In MATLAB," The third Iranian conference of ichthyology, Shiraz, Iran, 2015.
- Oral M. Goharimanesh, D. Forouhar, A.A. Akbari, "Engineering achievements in applied biology," The 1st congress on Applied Zoology, January, Mashhad, IRAN 2015.
- Oral F. YazdaniMoghaddam M. Goharimanesh, "Introducing a new Comprehensive Applied Traditional Morphometrics Tool-Box," The 1st congress on Applied Zoology, January, Mashhad, IRAN 2015.
- Oral M. Goharimanesh, A. A. Akbari, "On Zoology Engineering, Introduction and the Relationship with the Cognitive Sciences," The 1st congress on Applied Zoology, January, Mashhad, IRAN 2015.
- Poster Mo. Goharimanesh, F. Ghasemzadeh, M. Goharimanesh, "A Black Box Model Based on Fuzzy Neural Network to Predict the Power of Biting of Sharks using morphological data, The 1st congress on Applied Zoology, January, Mashhad, IRAN 2015.
- Oral A. A. Akbari, M. Goharimanesh, "Yaw Moment Control Using Fuzzy Reinforcement Learning," Advanced Vehicle Control Conference, Tokyo, Japan, 2014.
- Oral M. Goharimanesh, M. Salari, "Washout Algorithm Designing for an Automotive Simulator," ICEEE, Gonabad, Iran, 2014.
- Oral M. Goharimanesh, A. A. Akbari, "Fuel Optimization Based on Vehicle Dynamics Parameters via TAGUCHI Method," National conference on mechanical engineering of Iran (NCMEI), P: 113, 2014.
- Oral E. Mobarak, M. Goharimanesh, A. H. Davaei, N. Hashemian, "Size Determination of Components of Hybrid Vehicles with TAGUCHI Experiment Design for Minimization Fuel Consumption," The 2nd Conference of clean energy, Kerman, Iran, 2012.
- Oral M. Salari, M. Goharimanesh, R. Bayat, "Investigation of Tire inflation Pressure on Suspension Parameters using TAGUCHI Method," The 2nd Conference of AZAD university, SHIRAZ Branch, Shiraz, Iran, 2012.
- Oral M. Salari, M. Goharimanesh, R. Bayat, "Comparison of Vehicle Acceleration in Theory and Reality," The 2nd Conference of AZAD university, SHIRAZ Branch, Shiraz, Iran, 2012.
- Oral B. Mashadi, M. Goharimanesh, "Vehicle Dynamics Control Using Change of Tire Inflation Pressure," Proceedings of the 2011 The 1st international conference of Iranian acoustic and vibration association, Tehran, Iran, 2011.
- Oral R. Bayat, M. Salari, M. Goharimanesh, "Effects of EGR Systems in Gasoline Engine Using Combustion Cycle Modeling Results," The 7th International Conference on Computational Heat and Mass Transfer, Istanbul, Turkey, 2011.
- Oral M. Salari, M. Goharimanesh, R. Bayat, "Three Dimensional Analysis of Flow in a Chemical Catalytic Converter," The 7th International Conference on Computational Heat and Mass Transfer, Istanbul, Turkey, 2011.
- Oral M. Maarefdoust, M. Kadkhodayan, M. Goharimanesh, "Modeling and Analysis of Reverse Drawing Process of Steel Sheet and Comparison with Simple Drawing Process,"  $\square\square\square\square$ , pp. 1043-1049, 2011.
- Oral B. Mashadi, M. Goharimanesh, M. R. Gharib, M. Majidi, "Quantitative Feedback Theory Controller Design for Vehicle Stability Enhancement," ASME 10th Biennial Conference on Engineering Systems Design and Analysis, Istanbul, Turkey, 2010.

Oral B. Mashadi, M. Goharimanesh, "Vehicle Yaw Stability Control," 2nd National Conference of Mechanical Engineering-NCME, Khomeinishahr, Iran, 2009.

#### Software Package Created

- 1- M. Goharimanesh, "Fuzzy Reinforcement Learning Toolbox," 2015
- 2- M. Goharimanesh, "Fishizer: A new toolbox which digitizes the fish bodies," 2015
- 3- M. Goharimanesh, "Research Methods Training DVD in Farsi Language," 2015
- 4- M. Goharimanesh, Behrooz Lotfi, "QUADSIM, An Embedded toolbox in MATLAB for simulating a quadrotor," 2014
- 5- M. Goharimanesh, "Design of Experiments Based on Taguchi Method Training DVD," 2014
- 6- M. Goharimanesh "Automatic Control Training DVD in Farsi Language," 2013
- 7- M. Goharimanesh "Automatic Engineering Software Training DVD in Farsi Language," 2013
- 8- M. Goharimanesh "CAR20, A Vehicle Dynamics Toolbox in MATLAB," 2012
- 9- M. Goharimanesh, "GOHARIZER, A useful software for digitizing pictures and graphs," 2012
- 10- M. Goharimanesh "Measurement Systems Training DVD in Farsi Language," 2012
- 11- M. Goharimanesh "MATLAB Training DVD in Farsi Language," 2010
- 12- M. Goharimanesh "SOLIDWORKS Training DVD in Farsi Language," 2010

#### Membership

- 1- Honor Member of Nastaran Center for Cancer Presentation since 2014, till now
- 2- Reviewer of International Journal of Fuzzy Systems since 2014, till now with ( five complete review)
- 3- IEEE member in student branch since 2015, till now
- 4- Student member of Iranian Engineering Education Community since 2014, till now.
- 5- Editor of automotive engineering course contents at University of Applied Science and Technology since 2012 to 2013.
- 6- Student member of Iranian Acoustic Community since 2011, till now.
- 7- Member of Iranian Red Crescent since 2010, till now.
- 8- Member of Iranian Donation and Transplantation Community since 2012, till now.

#### Invited Lecturer

- 1- Invited as an instructor for modeling biological systems using Matlab in Animal Science department at Ferdowsi University of Mashhad, December, 2015.
- 2- Invited as a speaker in National broadcasting in Khorsan-Razavi Channel (2011 and 2015)
- 3- Invited Referee for ASME Conference, Houston, Texas, November 19-23, 2015.
- 4- Lecture: "Design of experiments", Sistan and Baluchestan University, Zahedan, Iran, March 2015.
- 5- Lecture: "Modeling and Simulating methods", Sistan and Baluchestan University, Zahedan, Iran, March 2015.
- 6- Lecture: "Scientific research methods", Sistan and Baluchestan University, Zahedan, Iran,

March 2015.

7- Lecture: "Scientific research methods", Ferdowsi University of Mashhad, Mashhad, Iran, January, 2015

8- Lecture: "Scientific research methods", Khayyam University, Mashhad, Iran, August, 2014

9- Lecture: "Technology in Urban Management", Islamic Azad University, Mashhad, Iran, August, 2014.

10- Invited Referee for auto cup competition, Islamic Azad University, Mashhad, Iran, December, 2014.

Workshop participated

1- Dynamic Brain and the Emergence of Cognition Workshop, October, 2015.

2- Workshop of Cytodiagnosics and Circulating Tumor Cells (CTC), October, 2015.

3- Workshop of How to be a Librarian, February 2008.

Teaching Experiences at Universities (2011-2015)

1- Ferdowsi University of Mashhad, Mechanical Engineering Department  
□ Measurement and Control Systems

2- AZAD University, Mashhad Branch, Engineering School  
Modeling and Simulating Methods (Electrical Master of Science Course)  
Measurement and Control Systems  
Software Application in Automotive Engineering  
Computer Programming  
Vehicle Dynamics  
Chassis Systems Design  
Engineering Mathematics  
Scientific Research Methods  
Technical Language  
BSc Projects (+15)

3- Khayyam University, Mechanical Engineering Department  
Measurement and Control Systems  
Chassis Systems Design  
CAD/CAE/CAM  
Automatic Control

Simulation of Dynamic systems and Control  
BSc Projects (+10)

4- Payame Noor University, Mashhad Branch, Automotive and Mechanical School  
Technical Language for Mechanical Engineering  
Technical Language for Automotive Engineering  
Production Methods in Automotive Engineering  
Engineering Designing Methods  
Introduction to Finite Elements Methods  
Research Methods  
Aerodynamics of Vehicles  
BSc Projects (+1)

5- University of Applied Science and Technology, Tasmimyar Toos Center  
Advanced Automotive Technologies  
Software Application in Automotive Engineering  
Technical Automotive Language  
Research Methods  
Transmission Systems  
Electronic in Automotive Engineering  
Vehicle Dynamics  
BSc Projects (+30)  
6- Industrial Companies of Mashhad

MATLAB, SIMULINK, MINITAB  
CARSIM, TRUCKSIM  
ADAMS/CAR

Computer Knowledge

1- General

- Microsoft office (Word, PowerPoint, Excel, Access, Outlook, Publisher) (professional)
- Photoshop(Elementary)
- ENDNOTE(professional)
- Moviemaker, Video Studio, Liquid (professional)

2- Web Designing



- ☐ HTML(Elementary)
- ☐ JOOMLA hosting(Intermediate)
- ☐ WORDPRESS hosting (professional)

**3- Programming**

- ☐ C++, FORTRAN, PASCAL, BASCOM(Intermediate)
- ☐ R(professional)

**4- Statistics**

- ☐ MINITAB(professional)
- ☐ SPSS(professional)

**5- Mathematical Modeling**

- ☐ MATLAB (IDENT-CFTOOL-PDETOOL-NFTOOL-NNTOOL-QFT-IMAGE PROCESSING, FUZZY- LTIVIEW- SISOTOOL, etc.) (professional)
- ☐ SIMULINK (SIMMECHANICS- SIMHYDRAULICS-SIMPOWERS, etc.) (professional)
- ☐ MAPLE(Intermediate)
- ☐ MAPLESIM(Intermediate)
- ☐ LABVIEW(Elementary)

**6- Computer Aided Designing**

- ☐ SOLIDWORKS(professional)
- ☐ CATIA(Elementary)

**7- Computer Aided Engineering**

- ☐ COSMOSWORKS(professional)
- ☐ COSMOSFLOWWORKS(professional)
- ☐ COSMOSMOTION(professional)
- ☐ ANSYS(Intermediate)
- ☐ ABAQUS(Intermediate)
- ☐ COMSOL(Intermediate)
- ☐ WEBOTS(Elementary)
- ☐ ADAMS/VIEW- ADAMS/CAR- ADAMS/ CONTROL(professional)
- ☐ PROTEUS(Elementary)
- ☐ Nastran/Patran(Intermediate)

**8- Automotive Engineering Software**

- ☐ CARSIM(professional)
- ☐ TRUCKSIM(professional)
- ☐ ADAMS/CAR(professional)
- ☐ ADVISOR(professional)