Masoud **Bahraini**

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"Make the change that you want to see in the world."

Education

Chalmers University of Technology — *Gothenburg, Sweden*
PhD Student, Electrical Engineering — *Nov 2017*

UT (University of Tehran) — *Tehran, Iran*
M.S. in Electrical Engineering, Control Engineering, GPA: 18.31/20 — *2013 - 2016*

IUST (Iran University of Science and Technology) — *Tehran, Iran*
B.S. in Electrical Engineering, Control Engineering, GPA: 16.60/20 — *2009 - 2013*

Research Interests

Model Predictive Control	Finite Horizon Control, Discrete systems, numerical constraint optimization
Nonlinear and Hybrid Systems	Analysis and Controller Design
Underactuated Systems	Transformation and Control
Fuzzy Logic and Systems	System Identification and Control

Honors & Awards

2007	**Passed**, Semi-Finalist in National Mathematics Olympiad at Young Scholars Club	*Bushehr, Iran*
2008	**Passed**, Semi-Finalist in National Mathematics Olympiad at Young Scholars Club	*Bushehr, Iran*
2008	**Ranked 3rd**, high school diploma	*Bushehr, Iran*
2009	**Ranked in top 0.5 %**, B.S. nationwide entrance exam of Iranian universities with nearly 400000 participants	*Tehran, Iran*
2013	**Ranked 17th**, M.S. nationwide entrance exam of Iranian universities with nearly 20000 participants	*Tehran, Iran*

Accomplished Presentations and Projects

2013	**Fabrication and Control of Ball on Wheel System**, Dr. Javad Poshtan	*B.Sc. Thesis*
2014	**Design and simulation of EKF and UKF for Ball on Wheel System**, Dr. A Rahimi-Kian	*Optimal Control Course*
2014	**Design and simulation of a nonlinear controller for Ball on Wheel System**, Dr. M.J. Yazdanpanah	*Nonlinear Systems Course*
2015	**Design and simulation of an adaptive nonlinear controller for Quadrotor system**, Adaptive Control Course	*M.J. Yazdanpanah*
2015	**Presentation on Underactuated and Nonholonomic Mechanical Systems**, Dr. M.J. Yazdanpanah	*Advanced Control Systems Lab*
2015	**Fabrication and control of a drawing manipulator**, Dr. M. Nili Ahmadabadi	*Robotic course*
2015	**Presentation on Static Optimization**, Dr. M.J. Yazdanpanah	*TA in Optimal Control Course*
2015	**Presentation on Applications of minimum time and energy controller design**, Dr. M.J. Yazdanpanah	*TA in Optimal Control Course*
2015	**Presentation on Fuzzy LQR, HJB approximation and Kalman Filters**, Dr. M.J. Yazdanpanah	*TA in Optimal Control Course*

2015	**Presentation on Nonlinear Phenomenons**, Dr. M.J. Yazdanpanah	*TA in Nonlinear Systems Course*
2015	**Presentation on Sensitivity, Hysteresis and Adaptive control**, Dr. M.J. Yazdanpanah	*TA in Nonlinear Systems Course*
2015	**Presentation on Finite Time Stability and Sliding Mode Control**, Dr. M.J. Yazdanpanah	*TA in Nonlinear Systems Course*
2016	**Fabrication and nonlinear control of a Two Wheeled Mobile Inverted Pendulum system**, Dr. M.J. Yazdanpanah	*M.Sc. Thesis*
2016	**Sampled data control of a Propeller driven pendulum with experimental validation**, Dr. M.J. Yazdanpanah	*M.Sc. Thesis*
2016	**Presentation on Sampled-data Control of Linear and Nonlinear Systems**, Dr. M.J. Yazdanpanah	*Advanced Control Systems Lab*
2016	**Presentation on Finite Time Stabilization using High Order Sliding Mode Control**, Dr. M.J. Yazdanpanah	*Advanced Control Systems Lab*
2016	**Presentation on Proposing an Extended Backstepping and Nonlinear Control of Segway**, Dr. M.J. Yazdanpanah	*Advanced Control Systems Lab*
2016	**Presentation on Nonlinear Control of Segway with experimental validation**, Dr. M.J. Yazdanpanah	*Advanced Control Systems Lab*

Selected Taken Courses

2013	**Navigation**, GPS and inertia navigation systems	*17.5/20*
2013	**Nonlinear systems**, Lyapunov stability,Feedback Linearization, Sliding mode control, Ultimate boundedness, Backstepping	*16.5/20*
2013	**Optimal control**, Dynamic Programming, HJB, Calculus of variation, LQR, Kalman filters	*19.5/20*
2014	**Adaptive Control**, Adaptive parameter estimation, Adaptive state feedback control, MRAC, APP, Adaptive backstepping	*17.1/20*
2014	**Fuzzy logic**, Fuzzy arithmetic, Fuzzy clustering, Mamdani and TSK systems, Fuzzy type two systems and defuzzification algorithms like KM, EKM, CF and MCF	*19/20*
2014	**System Identification**, Optimization algorithm, Static function identification, Neural networks, Linear dynamic system identification, Nonlinear dynamic system identification	*17.5/20*
2015	**Robotic (robot manipulators)**, Forward and inverse kinematics, Differential kinematics, Dynamics, Motion control	*19.5/20*
2015	**Robust control**, H_2 and H_∞ spaces, Internal stability, Uncertainty and robustness, μ synthesis, H_2 and H_∞ controllers	*15.5/20*

Publications

Continuous Control of Sampled Data Systems with Robustness Against Bounded Measurement Errors, Transactions of the Institute of Measurement and Control	*27/05/2017*
On Stabilization and Output Tracking of a Class of Nonlinear systems via a New Backstepping-like Method, CDC 2017	*18/03/2017*

Languages

Persian Native
English Fluent

TOEFL iBT 105 (R:28 L:29 S:22 W:26)
GRE 318 (V:145 Q:170 W:3)

Computer Skills

Engineering Software MATLAB, Atmel Studio, CoIDE, Proteus, Altium Designer, Maple

Others Latex, Microsoft Office Word, Excel, PowerPoint, Visio

Academic Experiences

Fall 2015	**Teaching Assistant**, Optimal Control	*UT*
Fall 2015	**Teaching Assistant**, Nonlinear Systems	*UT*
Fall 2015	**Teaching Assistant**, Linear Control Systems	*UT*
Spring 2016	**Teaching Assistant**, Linear Control Systems	*UT*
Summer 2016	**Mentor of a B.Sc. student**, Fabrication and control of Ball and wheel	*UT*
Summer 2016	**Mentor of a B.Sc. student**, Fabrication and control of Buck Boost Converter	*UT*

Work Experiences

2016	**Control Engineer**, Mechatronics Research Laboratories (MRL) middle size soccer robots	*Qazvin, Iran*

References

Paolo Falcone (Associate Professor) *Gothenburg, Sweden*

School of Electrical Engineering, Chalmers University of Technology

- E-mail: paolo.falcone@chalmers.se
- Tel: +46 317721803

Mohammad Javad Yazdanpanah (Professor) *Tehran, Iran*

School of Electrical Engineering, University of Tehran

- E-mail: yazdan@ut.ac.ir
- Tel: +982182084925

Aras Adhami (Lecturer) *Tehran, Iran*

School of Electrical Engineering, University of Tehran

- E-mail: a.adhami@ece.ut.ac.ir
- Tel: +989197810374

Tooraj Abbasian (Assistant Professor) *Tehran, Iran*

School of Electrical Engineering, University of Tehran

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- Tel: +989128198362