Personal information:

Name: **Hadi Azmi**

Phone: **04133459331**

Date of birth: **November 11, 1985**

Place of birth: **Tabriz, East Azarbayjan, Iran**

Marital Status: **Married**

Nationality: **Iranian**

E- mail: **h_azmi@sut.ac.ir / h_azmi@sbu.ac.ir**

Web-Links: **Google Scholar, Linked In, Research Gate**

Education:

Ph.D. In Control Engineering, Shahid Beheshti University, Tehran, Iran. **(2022)**

Supervisor: Professor Alireza Yazdizadeh

Ph.D. thesis: Robust Adaptive Fault Tolerant Controller Design for Uncertain Nonlinear Systems With Time-varying Delay in States and Inputs

Rank: 1 out of 7

M.Sc. in Control Engineering, Sahand University of Technology, Tabriz, Iran. **(2010)**

Supervisor: Professor Mohammad Javad Khosrowjerdi

M.Sc. thesis: Adaptive Fault Tolerant Controller Design for Nonlinear Systems in Presence of Disturbances

Rank: 1 out of 6

B.Sc. in Control Engineering, Sahand University of Technology, Tabriz, Iran. **(2008)**

Supervisor: Professor Mohammad Javad Khosrowjerdi

B.Sc. thesis: Controller Design and application to the Levitation Magnetic Ball System

Rank: 2 in 30

Academic Positions:

Current Position: Assistant Professor in Department of Control Engineering, Sahand University of Technology (SUT), Tabriz, Iran

Instructor (2013-2021), Department of Control Engineering, Sahand University of Technology (SUT), Tabriz, Iran

Lecturer (2010-2013), Department of Electrical Engineering, Sahand University of Technology (SUT), Tabriz, Iran

Honors and Awards:

1) Ministry of Science, Research and Technology of Iran and National Foundation of Iranian Elite Student's Scholarship for PhD students studying in Shahid Beheshti University (SBU) - Control Engineering Department from Sep 2017 to Sep 2020
2) Selected as distinguished student by National Foundation of Iranian Elite Student's Project to be qualified for a direct master program without entrance examination in SUT
3) Selected as a Youngest university Lecturer in Iran Azad University Malekan Branch - 2008
4) 2004 – 2008 Elite student in SUT in Bachelor Degree
5) 2008 – 2011 Elite student in SUT in Master Degree

Research Interests:

My general research interests includes:

- ➢ Real Time Control of Industrial Systems
- ➢ Robust and Adaptive Control of Nonlinear Systems,
- ➢ Fault Detection, Diagnoses, Identification and Control (FDD & FDI & FTC) in Nonlinear Systems
- ➢ Fixed and Time-varying Delay Systems
- ➢ Modeling and Control of Wind Turbines

Lectures:

- **Under Graduate:** Fuzzy Systems Control, Signals and Systems, Linear Systems Control Lab
- **Graduate:** Convex Optimization, Advanced Control of Nonlinear Systems, Real Time Systems

Industrial Positions:

R & D Expert at MECO, a company that manufactures control and instrumentation systems for thermal and renewable power plants, Department of Control Engineering & Manufacturing Company (MECO), Karaj, Alborz. **(2016-2019)**

Highlighted Activity:

1. 2.5 MW Wind Turbine Modelling in FAST.
2. Conceptual and detailed design for Wind Turbines Control and Supervisory Philosophy.
3. Modeling and control of Pitch and Yaw systems in a 2.5 MW manufactured Wind Turbine.

R & D Expert at Keyhan Naghsha Marava, Department of Control Engineering & Manufacturing Company Tabriz, Iran. **(2013-2016)**

Highlighted Activity:

1. Leak detection system for municipal drinking water and sewage piping
2. Metering systems for urban water supply and drinking water

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R & D Expert at Sahand Afraz Gostar, Department of Control Engineering & Manufacturing Company, Maragheh. **(2011-2013)**

Highlighted Activity:

1. High Voltage Motor Modelling in MATLAB.
2. Extraction Motor Control and Supervisory Philosophy.
3. Modeling and control of rotating system of Implemented system.
4. Implementation of Supervisory Philosophy in PLC Step 5 Siemens
5. Control of protection systems of glass ore factories
6. Control of crushing systems of glass ore processing plants

Publications: Journals Papers

1) **H. Azmi,** A. Yazdizadeh, *"Adaptive Delay Dependent Sliding Mode Fault Tolerant Controller Design for Nonlinear Systems with Unknown Time-varying Input and State Delays",* European Journal of Control, 100756**.** (2022)

2) **H. Azmi,** A. Yazdizadeh, *"A Novel Sliding Mode-Based Fault-Tolerant Controller Design for Nonlinear Dynamic Systems with Time-Varying Input and State Delays". Submitted to* Journal **of the Franklin Institute**. (2022)

3) **Azmi, H**, Yazdizadeh, A. *Fault-tolerant controller design for nonlinear systems with multiple input and state delays based on sliding mode algorithm.* Int J Robust Nonlinear Control. 2022; 1- 22. doi:10.1002/rnc.6180

4) **Hadi Azmi,** Alireza Yazdizadeh, Robust adaptive fault detection and diagnosis observer design for a class of nonlinear systems with uncertainty and unknown time-varying internal delay, ISA Transactions, 2022, ISSN 0019-0578, https//doi.org/10.1016/j.isatra.2022.05.029.

5) **H. Azmi,** A. Yazdizadeh, " *Adaptive controller Design for uncertain nonlinear systems with time-varying delay*", Published- **Journal of Computational and Nonlinear Dynamics – 2019**

6) **H. Azmi**, M. J. Khosrowjerdi, "*Robust Adaptive Output Feedback Fault-Tolerant Compensation Controller Design for Nonlinear Lipchitz Systems*" International Journal of Adaptive of Control and Signal Processing. Volume 31, Issue 12, Pages 1885-1902, 2017

7) **H. Azmi,** "*Adaptive Fault-Tolerant Controller Design with Loss of Actuators effectiveness Nonlinear Systems in presence of Bounded Disturbances*" **Majlesi Journal Of Electrical Systems**, published in June 2016

8) **H. Azmi,** "*State Dependent Robust Adaptive Controller Design for Nonlinear System in Presence of Disturbances*" **Majlesi Journal Of Electrical Engineering Systems,** published in June 2016

9) **H. Azmi**, M. J. Khosrowjerdi, "*Robust Adaptive Fault Tolerant Controller Design for Lipchitz Nonlinear Systems*", Proceedings of the Institution of Mechanical Engineers, Part I: **Journal of Control Engineering Science**, Volume 230, Issue 1, 2015

10) R. Babazadeh, A. A. Khiabani, **H. Azmi,** " *Nonlinear Modeling and Optimal Output Control of Two Wheeled Balancing Transporter* " , **Journal of Computer & Robotics**, 2015

Conference Papers:

1) **H. Azmi,** A. Yazdizadeh, " Adaptive tracking fault tolerant controller design for uncertain chemical reactor recycle system with unknown time-varying delay in the presence of

disturbance and loss of actuators effectiveness", 27th Iranian Conference on Electrical Engineering **(ICEE 2019)**

2) M Aghaseyedabdollah, Y Alaviyan, **H Azmi**, A Yazdizadeh, "Fuzzy Fractional Order Sliding Mode Controller Design for a Wind Turbine with DFIG ", 2021 29th Iranian Conference on Electrical Engineering **(ICEE 2021),** 637-642

3) **H. Azmi**, R. Babazadeh, "Robust Adaptive Fault Tolerant Controller (FTC) Design for Active Suspension System in the presence of physical parametric uncertainties", Iranian Conference on Electrical Engineering (ICEE 2016), published in IEEE digital library

4) **H. Azmi**, N. Matin, R. Rezaie "Adaptive Fuzzy PID Controller Design for The Time delay in the Presence of Input and Output Disturbance" Published in The Third International Conference on applied research in electrical, Mechanical & Mechatronic engineering 2016

5) R. Babazadeh, A. Khiabani, **H. Azmi**, " Optimal Control of Segway Personal Transporter " ICCIA 2016, published in IEEE digital library

6) **H. Azmi**, R. Rezaie, N. Matin, "Adaptive Fuzzy PID Controller Design for The Evaporation Unit of Sugar Factories in the Presence of Input and Output Disturbance" Published in The Third International Conference on applied research in electrical, Mechanical & Mechatronic engineering 2016

7) **H. Azmi**, "State Dependent Robust Adaptive Controller Design for Nonlinear System in Presence of Disturbances" ICEEE 2016

8) **H. Azmi**, "Robust Adaptive Fault-Tolerant Controller Design with Loss of Actuators effectiveness Nonlinear Systems in presence of Bounded Disturbances" ICEEE 2016

9) **H. Azmi** , H. Tohidi , " Nonlinear State Feedback Fault Tolerant Controller (FTC) Design applied to Three Phase Induction Motor " ICEEE 2013, publish (in Farsi)

10) M. Pezeshkian, **H. Azmi**, M. J. Khosrowjerdi, "A Robust Approach to Fault Tolerant Controller Design Based on GIMC structure for Non-Minimum Phase systems," ICCIA 2011,published in IEEE digital library

11) H. Azmi, M. J. Khosrowjerdi, "Input Output Feedback Linearization control for Quadruple Tank System," Iranian Electrical Engineering Student Conference, Tabriz, 2009 (in Farsi).

12) **H. Azmi**, "Controller Design for non-minimum phase nonlinear systems," Presented in the Dept. of Control. Engineering. Sahand University of Technology, 2009.

Language Proficiencies:

- ➢ Turkish (Native)
- ➢ Persian (Native)
- ➢ English (Good)
- ➢ French (Elementary)

Computer Skills:

- ➢ MATLAB/SIMULINK
- ➢ Wind Turbine Modeling With FAST
- ➢ Advantech DAQ Cards Using Matlab
- ➢ Python , C/C++ PROGRAMING
- ➢ PSPICE, MULTISIM
- ➢ LATEX, MS-WORD.