

## Siavash Fakhimi Derakhshan

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### EDUCATIONS:

- ❖ PhD of Electrical Engineering, Control, Department of Electrical Engineering, K.N.Toosi University Of Technology, Tehran, Iran.  
**Thesis:** “*Reduce the conservatism in stability analysis for Takagi-Sugeno fuzzy systems*”, **July 2012**. **Supervisor:** **Dr. A. Fatehi**.
- ❖ Master of Science in Electrical Engineering, Control, Department of Electrical Engineering, K.N.Toosi University Of Technology, Tehran, Iran.  
**Thesis:** “*Identification and Robust Controller design for the Servo-Hydraulic Robot Shoulder*”, July 2005. **Supervisor:** **Dr. H. Taghirad**.
- ❖ Bachelor of Science in Electrical Engineering, Control, Department of Electrical Engineering, Sharif University of Technology, Tehran, Iran.  
**Thesis:** “*Controller design for Airplane with Inertial cross coupling in frequency domain*”, Sep. 2003. **Supervisor:** **Dr. M. Mobed**.
- ❖ High School, **Shahid madani** (under supervision of NODET, National Organization for Developing Exceptional Talents), Tabriz, Iran.

### FIELDS OF INTEREST:

- ❖ Lazy Learning
- ❖ Fully probabilistic decision making
- ❖ Robust Control
- ❖ Fuzzy sets & systems
- ❖ Optimization

### PROFESSIONAL EXPERIENCE:

- ❖ Research Assistant February 2017 – Present

*Institute of Information Theory and Automation of the Czech Academy of Sciences, Department of Adaptive Systems, Prague, Czech Republic*

*Research in topics related to Optimization, Lazy Learning and fully probabilistic decision making.*

- ❖ Researcher and Programmer May 2006 -- December 2016

*K.N.Toosi University of Technology, Advanced Process Automation & Control research group, Tehran, Iran*

*Worked on Universal Controller System, Advanced control methods in the Oil refinery, and Stability analysis and stabilization of Takagi-Sugeno fuzzy systems.*

- ❖ Lecturer

*Shahid Rajaee Teacher Training University, Tehran, Iran*  
*Industrial Control, Identification, Modern Control Theory.*

October 2012 -- July 2014

*University of Applied Science and Technology, Tehran, Iran*  
*Linear Control System, Digital control system, Modern Control Theory, Robotic, Industrial Control, Intelligent Systems.*

October 2009 -- July 2015

## PUBLICATIONS:

### Journals:

- ❖ Siavash Fakhimi Derakhshan and Alireza Fatehi, “Non-monotonic Lyapunov functions for stability analysis and stabilization of discrete time Takagi-Sugeno fuzzy systems”, *International Journal of Innovative Computing, Information and Control*, Volume 10, Number 4, Pages 1567-1586 , 2014.
- ❖ Siavash Fakhimi Derakhshan, Alireza Fatehi, and Mehrdad Ghasem Sharabiany, “Non-monotonic Observer-based Fuzzy Controller Designs for Discrete Time T-S Fuzzy Systems via LMI”, *IEEE Transactions on Cybernetics*, Volume 44, Issue 12, Pages 2557-2567, 2014.
- ❖ Siavash Fakhimi Derakhshan and Alireza Fatehi, “Non-monotonic Robust  $H_2$  Fuzzy Observer-based Control for Discrete Time Nonlinear Systems with Parametric Uncertainties”, *International Journal of Systems Science*, Volume 46, Issue 12, Pages 2134-2149, 2015.
- ❖ Shoorangiz Shams Shamsabad Farahani, Siavash Fakhimi Derakhshan, “Comments on Stability,  $l_2$ -Gain, and Robust  $H_\infty$  Control for Switched Systems via N-Step-Ahead Lyapunov Function Approach”, *IEEE Access*, Volume 7, Pages 2396-2400, 2018.
- ❖ Shahrzad Behzadimanesh, Alireza Fatehi, Siavash Fakhimi Derakhshan, “Optimal fuzzy controller based on non-monotonic Lyapunov function with a case study on laboratory helicopter”, *International Journal of Systems Science*, Volume 50, Issue 3, Pages 652-667, 2019.
- ❖ Shoorangiz Shams Shamsabad Farahani, Siavash Fakhimi Derakhshan, “Nonmonotonic-Based Congestion Control Schemes for a Delayed Nonlinear Network”, *Circuits, Systems, and Signal Processing*, Volume 39, Issue 1, Pages 154-174, 2020.

## Conferences:

- ❖ Yashar Kouhi, Rahman Adlgostar, Batool Labibi, Alireza Fatehi, and Siavash Fakhimi Derakhshan, “Multivariable Control Design for MIMO Flow-Level Control Plant”, in *Proceedings of the International Conference on "Computer as a Tool" (EUROCON)*, Warsaw, Poland, Pages 725-730, 2007.
- ❖ Mojtaba Masoudinejad, Rahman Khorsandi, Alireza Fatehi, Caro Lucas, Siavash Fakhimi Derakhshan, and Mohammad Reza Jamali, “Real-Time Level Plant Control Using Improved BELBIC”, in *Proceedings of the 17th IFAC World Congress*, Seoul, Korea, Pages 4631-4635, 2008.
- ❖ Siavash Fakhimi Derakhshan, Alireza Fatehi, and Mehrdad Ghasem Sharabiany, “Non-Monotonic Fuzzy State Feedback Controller Design for Discrete Time T-S Fuzzy Systems”, in *Proceedings of the 9th International Conference on Fuzzy Systems and Knowledge Discovery*, Chongqing, China, Pages 102-107, 2012.
- ❖ Hamidreza Nourzadeh, John E. McInroy, Nasrin Sadeghzadehyazdi, Siavash Fakhimi Derakhshan, “Non-Monotonic Fuzzy State Feedback Controller Design for Discrete Time T-S Fuzzy Systems”, in *Proceedings of the 2nd International Conference on Robotics and Mechatronics (ICRoM)*, Tehran, Iran, Pages 76-82, 2014.
- ❖ Mohammad Ostadijafari, Siavash Fakhimi, Mojtaba Amini Omam, “Robust cooperative saturated output feedback control of uncertain networked Euler-Lagrange systems”, *International Conference on Mechanical, System and Control Engineering (ICMSC)*, St. Petersburg, Russia, Pages 230-234, 2017.
- ❖ Tatiana Valentine Guy, Siavash Fakhimi Derakhshan, Jakub Štěch, “Lazy Fully Probabilistic Design: Application Potential”, *European Conference on Multi-Agent Systems*, Evry, France, Pages 281-291, 2017.

## Computer Skills:

- ❖ **Operating Systems:** Windows 98/XP, DOS.
- ❖ **Programming Languages:** Basic, Pascal, C, Assembly (8086).
- ❖ **Professional Environments:** Matlab/Simulink, Protel, Spice.
- ❖ **General Soft wares:** MS-Word, LATEX, Excel, PowerPoint, Adobe, etc.