CONTACT INFORMATION	Afrooz Ebadat, PhD Student, KTH-Royal Institute of Technology, Automatic Control Lab., Osquldas väg 10, 100 44 Stockholm, SWEDEN.	Cell: +46 (0)765 629 086 E-mail: ebadat@ee.kth.se, afrooz.ebadat@gmail.com
<ul> <li>RESEARCH</li> <li>System identification and Modeling of dynamical systems</li> <li>Identification for control</li> <li>Experiment design for identification</li> <li>Model Predictive Control (MPC)</li> <li>Control of Heating, Ventilation and Air Conditioning systems</li> </ul>		
Royal Institute of Technolog - Ph.D., Automatic Contro Research topics: "MPC oriented experiment of	y, Stockholm, Sweden bl, lesign for system identification"	May 2012 - Present
<ul> <li>"Buildings occupancy estimation"</li> <li>Shiraz University, Shiraz, Iran</li> <li>M. Sc., in Control Engineering, School of electrical and computer engineering.</li> <li>Thesis Title: "Application of Control methods in Optimal Oil Well Placement"</li> </ul>		
Supervisor: Dr. P. Karimaghaee (Associate Professor) Reviewer: Prof. A.A. Safavi Course work average: <b>19.12/20</b> Thesis Grade out of 20: <b>19.8</b>		
<ul> <li>Shiraz University, Shiraz, Iran</li> <li>B. Sc., in Electrical Engineering (Control), School of electrical and computer engineering.</li> <li>Project Title: "Simulation of Educational Environment for Industrial Control"</li> <li>Supervisor: Prof. A.A. Safavi</li> <li>Overall GPA: 17.45/20</li> </ul>		

# **Teaching Experiences**

- Supervision of Bachelor thesis:
  - PID in building control and automation (2014)
  - An application of people counters in building control and automation (2015)
- Teaching Assistant
  - Basic control, KTH Royal Institute of Technology, Sweden (Fall 2014)
  - Modeling of Dynamical systems, KTH Royal Institute of Technology Sweden (Fall 2015)

### PUBLICATIONS

Here is a full list of my publications:

## Journals

1. A. Ebadat, G. Bottegal, D. Varagnolo, B. Wahlberg, and K. H. Johansson, 'Regularized Deconvolution-based Approaches for Estimating Room Occupancies', *IEEE Transactions on Automation Science and Engineering*, Vol 12, 2015.

- **2. A. Ebadat**, P. A. Valenzuela, Cristina. R. Rojas, B. Wahlberg, 'Model Predictive Control Oriented Experiment Design for Closed-loop System Identification: A Graph Theoretical Approach', to be submitted to Journal of process control.
- 3. L. A. Larsson, A. Ebadat, C. R. Rojas, and H. Hjalmarsson, 'An application oriented approach to optimal control with excitation for closed-loop identification', *European Journal of Control*. (Submitted), 2014.
- 4. A. Ebadat, P. Karimaghaee, 'Well placement optimization according to field production curve using gradient-based control methods through dynamic modeling', Journal of Petroleum Science and Engineering, vol 100, pp 178-188, 2012.
- 5. A. Ebadat, N. Noroozi, A. A. Safavi, S. H. Mousavi, 'New fuzzy wavelet network for modeling and control: The modeling approach', *Journal of Communications in Nonlinear Science and Numerical Simulation*, Elsevier, vol6, issue8, 2011.
- 6. S. H. Mousavi, N. Noroozi, A. A. Safavi, A. Ebadat, 'Modeling and control of nonlinear systems using novel fuzzy wavelet networks: The output adaptive control approach' *Journal of Communications in Nonlinear Science and Numerical Simulation*, Elsevier, 2011.
- 7. A. Ebadat, P. Karimaghaee and H. Mahdiyar, 'Application of Gradient-Based Control Methods in Efficient Oil well Placement Through Dynamic Fuzzy Neural Network Modeling', Springer, CCIS 194, pp. 616–630, 2011 also DEIS2011, London, 22-24 July, 2011.

### Conferences

- 1. **A. Ebadat**, G. Bottegal, M. Molinari, D. Varagnolo, B. Wahlberg, , H. Hjalmarsson, and K. H. Johansson, 'Multi-room occupancy estimation through adaptive gray-box models', In IEEE conference on Decision and Control (CDC), 2015.
- 2. A. Ebadat, G. Bottegal, D. Varagnolo, B. Wahlberg, H. Hjalmarsson, and K. H. Johansson, 'Blind identification strategies for room occupancy estimation', In 14th European Control Conference, Linz, July, 2015.
- 3. **A. Ebadat**, P. E. Valenzuela, C. R. Rojas, H. Hjalmarsson, and B. Wahlberg. 'Applications oriented input design for closed-loop system identification: a graph-theory approach'. In IEEE conference on Decision and Control (CDC), Los Angles, US, December 2014.
- 4. **A. Ebadat**, B. Wahlberg , H. Hjalmarsson , C. R. Rojas, P. Hägg , C. A. Larsson "Applications Oriented Input Design in Time-Domain Through Cyclic Methods", 19th IFAC World Congress, Cape town, South Africa, August 2014.
- 5. P. Hägg, C. A. Larsson, **A. Ebadat**, B. Wahlberg, H. Hjalmarsson, "Input Signal Generation for Constrained Multiple-Input Multiple-Output Systems", 19th IFAC World Congress, Cape town, South Africa, August 2014.
- 6. **A. Ebadat**, M. Annergren, C. A. Larsson, C. R. Rojas, B. Wahlberg, H. Hjalmarsson, M. Molander, J. Sjöberg, "Application Set Approximation in Optimal Input Design for Model Predictive Control", In 13th European Control Conference, Strasbourg, France, June 2014.
- 7. **Afrooz Ebadat**, Giulio Bottegal, Damiano Varagnolo, Bo Wahlberg, Karl H. Johansson, "Estimation of building occupancy levels through environmental signals deconvolution", 5th ACM Workshop On Embedded Systems For Energy-Efficient Buildings, 13-14 November, 2013, Rome, Italy.
- 8. A. Ebadat, P. Karimaghaee, "Genetic Algorithm Assisted Fuzzy Iterative Learning Optimizer for Automatic Optimization of Oil Well Placement under Production Constraints", IFAC workshop on Control Applications of Optimization, Volume 15, Part 1, 2012, Rimini, Italy.
- 9. A. Ebadat, P. Karimaghaee and H. Mahdiyar, 'Application of Gradient-Based Control Methods in Efficient Oil well Placement Through Dynamic Fuzzy Neural Network Modeling', Springer, CCIS 194, pp. 616–630, 2011 also DEIS2011, London, 22-24 July, 2011
- 10. A. Ebadat, P. Karimaghaee, M. Jesmani, 'Optimization-Based Fuzzy Iterative Learning Control', *Iranian Conference on Electrical Engineering*, 2011, Tehran, Iran
- 11. M. Jesmani, F. Shabani, P. Karimaghaee, **A. Ebadat**, 'Singular Value Decomposition Assisted Ensemble Kalman Filter for History Matching Problem, *Iranian Conference on Electrical Engineering*, 2011, Tehran, Iran.
- 12. A. Ebadat, N. Noroozi, A.A. Safavi, and S. H. Mousavi, 'Modeling and Control of Nonlinear Systems Using Novel Fuzzy Wavelet Networks: The Modeling Approach', *49th IEEE Conference on Decision and Control*, December 15-17, 2010, Atlanta, GA, USA.

# **Reports**

A. Ebadat, 'On Application Oriented Experiment Design for Closed-loop System Identification', Licentiate thesis, January 2015.

## Work Experiences

# • July 2010 – April 2012

Saba Etesalat (Manufacturer of Fiber Optic telecommunication appliances), Shiraz, Iran, Position: Technical Sale Manager

## • September 2008 – September 2009

Pars Hasas (Industrial automation), Shiraz, Iran, Position: Technician

#### COMPUTER SKILLS

- MATLAB, CVX and LATEX (very good)
- Electrical Engineering Software: PLC Ladder Diagram (Siemens) (good)
- Oil Reservoir Simulation Software: Eclipse100 (good)
- Computer Applications: Microsoft Office (very good)
- Programming Languages: C++ (experience)
- Design Software: Photoshop, AutoCad (experience)