Name: Ahmad Kalhor

Degree: PhD

Institute: Faculty of New Sciences and Technologies, university of Tehran

Position: Assistant professor

A) Education

Ph.D.: Electrical Engineering--Control Systems, School of Electrical and Computer Engineering

University of Tehran, Iran, Jun. 2011.

Thesis topic: Improving local-linear neuro-fuzzy model with emphasis on prediction.

M.Sc.: Electrical Engineering--Control Systems, School of Electrical and Computer Engineering

University of Tehran, Iran, Jan. 2003

Thesis topic: Optimization of fuel consumption in automobile.

B.Sc.: Electrical Engineering--Electronics, University of Science and Technology of Iran, Iran, Feb. 2000.

B) Research Interests

- System modeling, simulation and identification through Neuro-fuzzy models

-Analytical control

- Prediction of real-world systems

C) Published journal papers

[1] A. Kalhor, B.N. Araabi, C. Lucas, Reducing the number of local linear models in neuro–fuzzy modeling: A split-and-merge clustering approach, Applied Soft Computing Journal , vol. 11, no. 8, pp. 5582-5589, 2011.
[2] A. Kalhor, B.N. Araabi, and C. Lucas, " A New Systematic Design for Habitually Linear Evolving TS Fuzzy Model," Journal of Expert systems with applications, vol. 39, no. 2, pp. 1725-1736, 2012.

[3] A. Kalhor, B.N. Araabi, and C. Lucas, " Online Extraction of Main Linear Trends for Nonlinear Time Varying Processes," Information Sciences, vol. 220, pp. 22-33, 2013.

[4] A. Kalhor, B.N. Araabi, and C. Lucas, "Evolving Takagi-Sugeno Fuzzy Model Based on Switching to Neighboring Models, Applied Soft Computing Journal , vol. 13, no. 2, pp. 939-946, 2013.

[5] A. Kalhor, B.N. Araabi, and C. Lucas, "An Online Predictor Model as Adaptive Habitually Linear and Transiently Nonlinear Model," Evolving Systems, vol. 1, pp. 29-41, 2010.
[6] M.Komijani, C . Lucas, B.N.Araabi, A. Kalhor, "Introducing evolving Takagi-Sugeno method based on Local Least Squares Support Vector", Evolving Systems, vol. 3, pp 81-93, 2012.
[7] S. Shahinfar, H. M. Yeganeh, C. Lucas, A. Kalhor, M. Kazemian and K. A. Weigel, "Dairy Cattle using Artificial Neural Networks and Neuro-Fuzzy Systems," Computational and Mathematical Methods in Medicine, Volume 2012, Article ID 127130, 9 pages, doi:10.1155/2012/127130.
[8] H. Iranmanesh1, A. Kalhor and M. Abdollahzade, "Long-term prediction of energy indices by a modified habitually linear evolving TS fuzzy model," to be appeared in Scientific Research and Essays Vol. 7(8), 16 March, 2012.
[8] A. Kalhor, B.N. Araabi, and C. Lucas, "A New High-order Takagi-Sugeno Fuzzy Model Based on Deformed Linear Models l," Amirkabir Int. J. of Modeling Identification, Simulation and Control, vol. 42, no. 2, pp. 43-52, 2010.
[9] A. Aghalari, A. Kalhor, M.M. Dehghan, A. Abedian," Designing, testing and elevation of single gimbal control moment gyro for microsatellite," Journal of Space Science and Technology (JSST), vol. 2, no. 3, pp. 13-23, 2010.
[10] A. Kalhor, M.M. Dehghan," Terrain elevation matching with observations of Radar By using active point-mass filter," Aero- space sciences and technologies, vol. 1, no. 1,pp. 40-51, Iran, 2011.

[11] F. Habibi, M. M. Farahani, B. Moshiri, A. Nouhegar and A. Kalhor, "Improving the prediction of Tropical Storms through choosing effective features," Journal of Iranian geophysical society, vol.5, no.3 ,2011.

D) Conference papers

[1] A. kalhor, B. N. Araabi, C. Lucas, Online identification of a neuro fuzzy model through indirect fuzzy clustering of data space, In proc. 18th IEEE Int. Conf. on Fuzzy Systems, Jeju, Korea, Aug. 21 24, 2009, pp. 356 359.

[2] A. Kalhor, B.N. Araabi, and C. Lucas, "A New Split and Merge Algorithm for Structure Identification in Takagi-Sugeno Fuzzy Model," in Proc. of 7th Int. Conf. on Intelligent Systems Design and Applications, 2007, pp. 258-261.

[3] A. kalhor, B. N. Araabi and C. Lucas, An Online Predictor Model as Adaptive Linear model and Evolving Takagi-Sugeno Model, International Symposium on Evolving Intelligent Systems (EIS'10) in the framework of the 2010 Annual Convention of the Society, 29th March – 1st April, 2010, De Montfort University, Leicester, 2010.

[4] A. Kalhor, H. Iranmanesh and M. Abdollahzade, Online Modeling of Real-World Time Series Through Evolving AR Models, , 2012 IEEE International Conference on Fuzzy systems,FUZIEEE2012, doi:

10.1109/FUZZ-IEEE.2012.6250843,2012.

[5] M.J. Yazdanpanah , A. Kalhor, Air/Fuel Ratio Control in SI1 Engines Using a Combined Neural Network & Estimator, In the proceedings of the 2003 IEEE International Conference on Control Applications, Turkey, June 23-25, 2003.

[6] A. Kalhor, B. N. Araabi, Estimation of control points in near Quasi-Isometric images through clustering of near-colored-regions, the fourth conference of machine vision and image processing of Iran, Iran, Mashhad, 2006.

[7] A. Kalhor, M.J. Yazdanpanah, A New Method for Determination of the Basin in Nonlinear Autonomous Systems, (In Farsi), In the Proceedings of the 10th Iranian Conference on Electrical Eng. (ICEE 02), May 2002, University of Tabriz, Tabriz, Iran.

[8] M. J. Mahjoob, M. Abdollahzade, R. Zarringhalam, A. Kalhor, "Chaotic time series forecasting using locally quadratic fuzzy neural models," in Proceedings of the 9th WSEAS International Conference on Fuzzy Systems , 2008, pp. 28-33.

[9] A. R. Koushki, M. Nosrati Maralloo, C. Lucas, A. Kalhor, "Application of Neuro-Fuzzy models In Short Term Electricity Load Forecast ",Proceedings of the 14th International CSI Computer Conference (CSICC'09), 2009, pp. 41-46.

[10] M. Nosrati Maralloo, A. R. Koushki, C. Lucas, A. Kalhor, " Long Term Electrical Load Forecasting via a Neurofuzzy Model", Proceedings of the 14th International CSI Computer Conference (CSICC'09), 2009, pp. 35-40.

[11] B. Atoufi, C. Lucas, A. Kalhor, M. R. Yousefi, "Channel selection in EEG prediction: linear and nonlinear approach", in the proceeding of ICAOR2008: 1st International Conference on Applied Operational Research, Yerevan, Armenia, 2008, pp. 320-328.

[12] O. Ghiasvand, C. Lucas, A. Kalhor, M. R. F. Derakhshi, " Using fuzzy neural networks to predict arrival time of interplanetary shocks",Proceedings of Int. Symp. FORGES 2008, Armenia, 2008.

[13] F. Habibi,B. Moshiri, M. Mazraeh Frahani,A. Nohegar, A., Kalhor, Improvement of the tropical cyclone forecasting process with effective features selection methodology , International Conference on Computer and Management (CAMAN), 2011.

E) Professional work experiences:

1- System analyzing and control designing

> I have analyzed, designed and implemented different linear and nonlinear classic control systems (to actual SISO and MIMO industrial applications) such as PID, LQR, and linear adaptive and nonlinear feedback linearization.

2- Computer programming

I have designed and implemented various algorithm and system codes in C++, LabView and MATLAB both in Windows and Linux operating systems (For actual SISO and MIMO industrial applications).

3- Electronic circuits designing

I have designed and manufactured different electronic boards including: I/O digital and analogue convertors, PIC and AVR microcontrollers, motor driver circuits, signal conditioning circuits for various sensors, and CAN, RS232 and RS485 interfaces.

F) Teaching experiences:

1- System Identification
2- Neural Network
3- Nonlinear Control
4- Adaptive Control
5- Industrial Control
6- Digital Control
7- Electronic circuits
8- Electrical circuits
9- Linear Algebra
10- Signals and systems