Biographical Sketch

Nominee: Chia-Feng Juang

Distinguished Professor
Department of Electrical Engineering,
National Chung Hsing University
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Education

Ph. D. Control Engineering, National Chiao Tung University, Taiwan, R.O.C. 09/1994-06/1997
M. S.   Control Engineering, National Chiao Tung University, Taiwan, R.O.C. 09/1993-08/1994
B. S.   Control Engineering, National Chiao Tung University, Taiwan, R.O.C.   09/1989-06/1993

Experience

08/2009-present   Distinguished Professor, Department of Electrical Engineering, National Chung Hsing University, Taiwan

02/2016-08/2017   Technology Consultant, Bonraybio CO., LTD., Taichung, Taiwan

01/2015-06/2016   Independent Director, GoMAX Electronics, Inc., Hsinchu, Taiwan

02/2007-07/2009   Full Professor, Department of Electrical Engineering, National Chung Hsing University, Taiwan

08/2003-01/2007   Associate Professor, Department of Electrical Engineering, National Chung Hsing University, Taiwan

08/2001-07/2003   Assistant Professor, Department of Electrical Engineering, National Chung Hsing University, Taiwan

08/1999-07/2001   Assistant Professor, Department of Electrical Engineering, Chung-Chou Institute of Technology, Taiwan

06/1999-08/1999   Senior Engineer, Silicon Integrated Systems Corp., Taiwan

07/1997-05/1999   Second Lieutenant Communication Officer, Air Force, Taiwan

Research Areas

Fuzzy Systems, Fuzzy Neural Networks, Deep learning, Evolutionary Computation, Intelligent Control, Computer Vision, Evolutionary Robots.

Citations:

Google scholar profile: http://scholar.google.com/citations?user=Vmq9fxUAAAAJ&hl=zh-TW

Total citations: 806, H-index: 45, i-10 index: 88
1000+ citations: 1 paper, 500-999 citations: 2 papers, 100-499 citations: 16 papers

WOS profile: Total citations: 4977, H-index: 35, average citations per item: 50+

600+ citations: 1 paper, 500-599 citations: 1 paper, 300-399 citations: 1 paper, 200-299 citations: 2 papers, 100-199 citations: 2 papers

Awards and Honors
— Published 100 journal papers (including 57 IEEE journal papers), 120+ conference papers, and nine book chapters.
— Outstanding Electrical Engineering Professor Award from the Chinese Institute of Electrical Engineering (2019)
— Fellow of IEEE (2019)
—Outstanding Chapter Award from IEEE Taipei Section (Served as Chapter Chair of IEEE Computational Intelligence Society) (2019)
— The Pride of National Chung Hsing University (2019)
— Best Paper Award, 2018 Conf. on Applications of Innovation & Invention (AII 2018)(2018)
— Excellent Poster Award, the Annual Research Presentation Provided by Control Engineering Program, Ministry of Science and Engineering, Taiwan (2018).
— Fellow of Chinese Automatic Control Society, Taiwan (2016)
— Fellow of Institution of Engineering and Technology (IET) (2014)
— Outstanding Automatic Control Engineering Award, Chinese Automatic Control Society, Taiwan (2014)
— Outstanding Youth Award, Taiwan Fuzzy Systems Association, Taiwan (2014)
— Outstanding Research Award, National Chung-Hsing University, Taiwan (2014)
— Best Poster Award, the Annual Research Presentation Provided by Control Engineering Program, Ministry of Science and Engineering, Taiwan (2014).
— Outstanding Youth Award, Taiwan System Science and Engineering Society, Taiwan (2010)
— Outstanding Youth Teacher Award, National Chung-Hsing University, Taiwan (2007).
— Youth Automatic Control Engineering Award, Chinese Automatic Control Society, Taiwan (2006)

Supervised students that won the following awards

— Supervised a Master Student with the product title "Alita: Six-DOF Mechanical Arm" that won the Excellent Award in the IoT application Group, 3D Print Theme Creation Competition, from Industrial Development Bureau, Ministry of Economic Affairs, 2019.

— Supervised Master students that won the "Master Thesis Award" from Taiwan Fuzzy Systems Association, Taiwan (2009, 2010, 2014, 2015, 2017, 2018, 2019)

— Supervised Master students that won the "Master Thesis Award" from Robotics Society of Taiwan (2018, 2019)

— Supervised a Master student that won the "Master Thesis Award" from Taiwanese Association for Consumer Electronics, Taiwan (2011)

— Supervised a Ph. D. student that won the Ph.D. Dissertation Award (1st place) from Taiwan Fuzzy Systems Association, Taiwan (2013)

Invited talks, keynotes, and plenary talks in conferences/workshops

— Keynote Speaker, 5th International Conference on Cloud Computing and Big Data Analytics (ICCCBDA 2020) and 5th International Conference on Mathematics and Artificial Intelligence (ICMAI 2020), April 10-13, 2020.

— Keynote Speaker, 3rd Int. Conf. on Intelligent Autonomous Systems, Singapore, Feb. 26-29, 2020. (Technically sponsored by IEEE SMC Society, Singapore Chapter)

— Plenary Speaker, Int. Conf. Fuzzy Theory and Its Applications, Taiwan, Nov. 7-10, Taiwan, 2019. (Technically sponsored by IEEE CIS, Taipei Chapter)

—Invited Lecture and Panel Discussion Panelist, Theme: How to be an Outstanding Research Fellow, IEEE International Conference on Consumer Electronics –Taiwan, May 20-22, 2019. (Technically sponsored by IEEE Consumer Electronics Society, Taipei Chapter)

— Invited Lecture, 2018 IEEE CIS Summer School on Computational Intelligence for Human and Machine Co-learning, Taiwan, Aug. 21-24, 2018. (Technically sponsored by IEEE CIS)

— Invited Lecture, Interdisciplinary Workshop on Sleep & Quarter Meeting on Sleep in Midland, Dec. 2017. (Organized by Taichung Veterans General Hospital, Taiwan)

— Invited Lecture, Young Professionals Workshop: how to become an outstanding researcher, Int. Automatic Control Conference, Taiwan, 9-11 Nov., 2016. (Technically sponsored by IEEE SMC)

—Keynote Speaker, The 7th International Symposium on Computational Intelligence and Design (ISCID), Hangzhou, China, Dec. 13th – Dec. 14th, 2014 (Technically sponsored by IEEE CIS Nanjing Chapter)

—Keynote Speaker, International Conference on Computational Advancement in Communication Circuits and Systems, Kolkata, India, Oct. 30th – Nov, 1st, 2014.

—Invited Lecture, International Workshop on Advances in Nonlinear Dynamical Systems and Robotics, Taiwan, June 17, 2014. (Hosted by IEEE Control Systems Society, Taipei Chapter)

—Invited Lecture, International Workshop on Systems and Controls, Nanzan University, Seto, Japan, Sep. 13, 2013.

Invited visits and talks:
— School of Software, University of Technology Sydney, Sydney, Australia, Aug. 28-Sep. 2, 2018.
— School of Automation, Guangdong University of Technology, Guangdong, China, Sep. 3-6, 2016
— College of Engineering, Bohai University, Liaoning, China, March 18 -19, 2016
— College of Science, Liaoning University of Technology, Liaoning, China, March 20 -21, 2016

Society Membership
— Invited member of IEEE Computational Intelligence Society, Task Force on Evolutionary Computer Vision and Image (2018~)
— Invited founding member of IEEE Systems, Man, and Cybernetics (SMC) Society, Technical Committee (TC) "Awareness Computing" (2009~)
  (Most Active TC Award in 2013, 2017)
— Invited founding member of IEEE SMC Society, TC "Intelligent Learning in Control Systems" (2008~)
  (Most Active TC Award in 2012)
— Invited member of IEEE SMC, TC "Soft Computing" (2000~)
  (Most Active TC Award in 2006, 2009)

Academic Services
● **Journal Editor/Associate Editor/Editorial Board Member**
— Associate Editor, IEEE Transactions on Cybernetics (SCI). (2016~)
— Associate Editor, IEEE Transactions on Fuzzy Systems (SCI) (2013~)
— Area Editor, International Journal of Fuzzy Systems (SCI) (2016~)
— Associate Editor, International Journal of Fuzzy Systems (IJFS). (SCI) (2013~)
— Associate Editor, Asian Journal of Control (SCI) (2013~)
—Associate Editor, Journal of Information Science and Engineering (SCI) (2010~)
— Editorial Board Member (Computer Science Area), The Scientific World Journal (SCI) (2012~2016)
— Editorial Board Member, Journal of Engineering, National Chung-Hsing University

(2010 ~2015)

● **Guest Editor of International Journals**

— Guest Editor, Special Session "Fuzzy Control Systems: Analysis, Design and Applications" of International Journal of Fuzzy Systems (2016)

— Guest Editor, Special Section "Fuzzy Theory and Its Applications" of International Journal of Fuzzy Systems. (2015)

— Guest Editor, Special Section of International Journal of Fuzzy Systems for iFUZZY 2013. (2014)

— Guest Editor, Special Section of International Journal of Fuzzy Systems for iFUZZY 2012. (2013)

● **Service in International/Domestic Organizations**

— Chair, IEEE Computational Intelligence Society, Taipei Chapter (2017-2018)

— Executive Director, Chinese Automatic Control Society (2016~)

— Executive Director, Taiwan Fuzzy Systems Association (2012~)

— Member of Project Review Board, Control Engineering Program, Ministry of Science and Technology, Taiwan (2018~)

— Member of Project Review Board, Control Engineering Program, National Science Council, Taiwan (2008-2010, 2012~2014)

— Member of International Cooperation Committee, Taiwan Robotics Industry Developing Association (ROBOAT) (2010-2012)

— IEEE Control Systems Society, Taipei Chapter, Treasurer (2002~2004)

— General Executives, Taiwan Fuzzy Systems Association, (2002~2003)

● **Chair/Co-chair of International Conferences:**

— General Chair, International Automatic Control Conference (CACS 2020)

— Program Chair, The 11th Int. Conf. Advanced Computational Intelligence (ICACI 2019)

— Best Papers Award Chair, 2019 International Conference on Fuzzy Theory and Its Applications (iFUZZY 2019).

— Program Co-Chair, International Conference on Advanced Robotics and Intelligent Systems (ARIS 2019)

— Track Chair, The 14th IEEE Conf. Industrial Electronics and Applications (ICIEA 2019)

— Track Chair, The 13th IEEE Conf. Industrial Electronics and Applications (ICIEA 2018)

— Publicity Chair, 25th Int. Conf. on Neural Information Processing (ICONIP 2018)

— Program Co-Chair, International Conference on Advanced Robotics and Intelligent Systems (ARIS 2018)

— Associate Editor, Asian Control Conference (ASCC 2017).

— Best Papers Award Chair, 2017 International Conference on Fuzzy Theory and Its Applications (iFUZZY 2017).

— General Chair, 2017 International conference on Advanced Robotics and Intelligent Systems (ARIS 2017), Taipei, Taiwan, 2017

— Track Chair, The 12th IEEE Conf. Industrial Electronics and Applications (ICIEA 2017)

— Best Papers Award Chair, 2016 International Conference on Fuzzy Theory and Its Applications, Taiwan(iFUZZY 2016).

— Young Professionals Program Co-Chair & Registration Co-Chair, IEEE Int. Conf. Systems & Man, and Cybernetics, Hungary, 2016.

— Invited Session Chair, 2016 Int. Conf. on Advanced Robotics and Intelligent Systems (ARIS 2016)

— Track Chair, The 11th IEEE Conf. Industrial Electronics and Applications (ICIEA 2016)

— Best Papers Award Chair, 2015 International Conference on Fuzzy Theory and Its Applications (iFUZZY 2015)

— Track Chair, The 10th IEEE Conf. Industrial Electronics and Applications (ICIEA 2015)

— Registration Co-Chair, IEEE International Conference on Systems, Man, and Cybernetics (IEEE SMC), USA, 2014.

— Invited Section Chair, The 11th IEEE International Conference on Control and Automation (IEEE ICCA 2014)

— Track Chair, The 9th IEEE Conf. Industrial Electronics and Applications (ICIEA 2014)

— Program Co-Chair, 2013 International Conference on Fuzzy Theory and Its Applications (iFUZZY 2013)

— Track Chair, The 8th IEEE Conf. Industrial Electronics and Applications (2013)

— Program Chair, 2012 International Conference on Fuzzy Theory and Its Applications (iFUZZY 2012)

— Track Chair, The 7th IEEE Conf. Industrial Electronics and Applications (2012)

— Program Co-Chair, 2011 Int. Conf. on Service and Interactive Robotics (SIRCon 2011).

— Publication Chair, IEEE Int. Conf. Fuzzy Systems (2011)

— Track Chair, The 6th IEEE Conf. Industrial Electronics and Applications (2011)

— Registration Co-Chair, SICE 2010 Annual Conference (2010)

— Program Co-Chair, The 5th IEEE Conf. Industrial Electronics and Applications (2010)

— Program Co-Chair, CACS International Automatic Control Conference (2007)

— Finance Chair, The 8th International Conference on Automation Technology (2005)

** Chair/Co-chair of Domestic Conferences:

— General Chair, National Conference on Advanced Robots, 2017

— Program Track Chair, Automation 2016, Taichung, Taiwan, 2016.

— Invited Session Chair, 2016 National Conference on Advanced Robotics (NCAR 2016)

- Best Papers Award Chair, The 23rd National Conf. On Fuzzy Theory and Its Applications (2015)
- Program Co-chair, The 21st National Conf. On Fuzzy Theory and Its Applications (2013)。
- Program Chair, the 20th National Conf. On Fuzzy Theory and Its Applications (2012)。
- General Co-chair, The Annual Research Presentation Provided by Control Engineering Program, National Science Council (2007).

Topics to be delivered as DL talks:

Topic 1:
Data-driven Interpretable Fuzzy Systems

Abstract

AI has become a popular research topic in recent years and has shown great success in different applications. However, most AI models function as black boxes and it is hard to explain the inference process of a suggestion made by these models. In this context, explainable AI (XAI) has attracted the attention of many researchers. Fuzzy systems (FSs) that show the advantage of interpretability in their inference fuzzy rules may provide a possible solution to XAI. In this talk, the basic concept of FSs and their interpretability will be introduced. Then, I will introduce our recent research results in data-driven interpretable FSs. Two learning techniques of data-driven interpretable FSs, including fuzzy neural networks (FNNs) and multiobjective evolutionary FSs (EFSs), will be introduced together with their applications. For FNNs, I will start with learning with low-scale data and its application to classification and prediction problems. Learning of FNNs with high-scale feature maps from a deep learning model and its application to image classification problems will then be given. The technique of multiobjective EFSs aims to find a set of non-dominated FSs that show tradeoffs between different objectives such as system interpretability and model accuracy through multiobjective evolutionary computation algorithms. In this subtopic, I will introduce the Multiobjective EFS we recently proposed and its application to evolutionary mobile robot control. To boost the learning efficiency of multiobjective EFSs, the technique of reinforcement neural fuzzy surrogate-assisted learning will be given at the end of this talk.

Topic 2:

Evolutionary Mobile Robots Using Computational Intelligence Techniques

Abstract

Evolutionary robots, like autonomous artificial organisms, automatically develop their own skills by interaction with the environment. This talk will focus on evolutionary locomotion control of wheeled and walking robots using computational intelligence techniques, including fuzzy systems, neural networks, and evolutionary computation. First, I will introduce the basic concept of evolutionary fuzzy systems (EFSs). Next, for wheeled robots, an obstacle boundary following behavior learned through EFSs will be introduced. Evolutionary fuzzy control of a single wheeled robot and multiple wheeled robots cooperatively carrying an object through multi-objective evolutionary computation algorithms for obstacle boundary following will be introduced. Then, navigation of a single and multiple cooperative wheeled robots in unknown environments will be presented. For walking robots, I will first introduce the basic concept of generating forward walking gaits through evolutionary recurrent neural networks (RNNs). Then, evolution of the walking gaits of a hexapod robot and a biped robot through evolutionary RNNs will be presented. Finally, navigation and evolutionary fuzzy control of a real hexapod robot based on the evolved gaits will be presented.

Statement about availability for delivering lectures

I agree to serve as an ambassador of the SMC Society, by delivering lectures at Chapter activities and help membership development during the DLP trip.

Publications

A. Journal papers:

1. **<u>C.F. Juang</u>** and C.T. Lin*, "A self-organizing neural fuzzy inference network for identification and control," *Journal of Control Systems and Technology,* vol. 4, no. 4, pp. 269-280, 1996. (EI)

2. C.T. Lin* and **<u>C.F. Juang</u>**, "An adaptive neural fuzzy filter and its applications," *IEEE Trans. Syst., Man, Cybern.,Part B: Cybernetics,* vol. 27, no. 4, pp. 635-656, Aug. 1997. (SCI, EI)

3. **<u>C.F. Juang</u>** and C.T. Lin*, "An on-line self-constructing neural fuzzy inference network and its applications," *IEEE Trans. Fuzzy Systems,* vol.6, no. 1, pp. 12-32, Feb. 1998. (SCI, EI)

4. C.T. Lin*, **<u>C.F. Juang</u>** and J.C. Huang, "Temperature control of rapid thermal processing system using adaptive fuzzy network," *Fuzzy Sets and Systems*, vol. 103, no. 1, pp. 49-65, April 1999. (SCI, EI)

5. **<u>C.F. Juang</u>** and C.T. Lin*, "A recurrent self-organizing neural fuzzy inference network," *IEEE Trans. Neural Networks,* vol.10, no. 4, pp. 828-845, Jul. 1999. (SCI, EI)

6. C. T. Lin*, **<u>C.F. Juang</u>**, and C.P. Li, "Temperature control with a neural fuzzy inference network," *IEEE Trans. Syst., Man, Cybern., Part C: Applications and Reviews,* Vol. 29, No. 3, pp. 440-451, Aug. 1999. (SCI, EI)

7. **<u>C.F. Juang</u>**, J.Y. Lin and C.T. Lin*, "Genetic reinforcement learning through symbiotic evolution for fuzzy controller design," *IEEE Trans. Syst., Man, Cybern., Part B: Cybernetics,* Vol. 30, No. 2, pp. 290-302, April 2000. (SCI, EI)

8. C. T. Lin*, **<u>C.F. Juang</u>**, and C.P. Li, "Water bath temperature control with a neural fuzzy inference network," *Fuzzy Sets and Systems*, Vol. 111, No. 2, pp. 285-306, April 2000. (SCI, EI)

9. **<u>C.F. Juang</u>** and C.T. Lin*, "Noisy speech processing by recurrently adaptive fuzzy filter," *IEEE Trans. Fuzzy Systems,* Vol. 9, No. 1, pp. 139-152, Feb. 2001. (SCI, EI)

10. **<u>C.F. Juang*</u>**, "A TSK-type recurrent fuzzy network for dynamic systems processing by neural network and genetic algorithms," *IEEE Trans. Fuzzy Systems,* Vol.10, No. 2, pp. 155-170, April 2002. (SCI, EI)

11. **<u>C.F. Juang*</u>**, "An automatic building approach to special Takagi-Sugeno fuzzy network for unknown plant modeling and stable control," *Asian Journal of Control*, Vol. 5, No. 2, pp. 176-186, June 2003. (SCI, EI)

12. **<u>C. F. Juang*</u>** and S. J. Ku, "A prediction-based recurrent neural fuzzy network for temporal sequence recognition," *Journal Of Engineering, NCHU*, Vol. 14, No. 2, pp. 115-122, July 2003.

13. **<u>C. F. Juang*</u>**, "Temporal problems solved by dynamic fuzzy network based on genetic algorithm with variable-length chromosomes," *Fuzzy Sets and Systems*, Vol. 142, No. 2, pp. 199-219, March 2004. (SCI, EI)

14. **<u>C. F. Juang*</u>**, "A hybrid of genetic algorithm and particle swarm optimization for recurrent network design," *IEEE Trans. Syst., Man, and Cyber., Part B: Cybernetics*, Vol. 34, No. 2, pp. 997-1006, April 2004. (SCI, EI)

15. F. B. Duh, **<u>C. F. Juang*</u>**, and C. T. Lin, "A neural fuzzy network approach to radar pulse

compression," *IEEE Trans. Geoscience and Remote Sensing Letters,* Vol. 1, No. 1, pp. 15-20, January 2004. (Corresponding author) (SCI, EI)

16. **C. F. Juang***, "Genetic recurrent fuzzy system by coevolutionary computation with divide-and-conquer technique," *IEEE Trans. Syst., Man, and Cyber., Part C: Applications and Reviews* , Vol. 35, No. 2, pp. 249-254, May 2005 (SCI, EI)

17. **C. F. Juang***, "Combination of on-line clustering and Q-value based GA for reinforcement fuzzy system design," *IEEE Trans. Fuzzy Systems*, Vol. 13, No. 3, pp. 289-302, June 2005. (SCI, EI)

18. **C. F. Juang*** and K. C. Ku, "A recurrent fuzzy network for fuzzy temporal sequence processing and gesture recognition," *IEEE Trans. Syst., Man, and Cyber.,-Part B: Cybernetics*, Vol. 35, No. 3, pp. 646-658, August 2005. (SCI, EI)

19. C. F. Lu and **C. F. Juang***, "Evolutionary fuzzy control of flexible AC transmission system," *IEE Proc. Generation, Transmission & Distribution*, Vol. 152, No. 4, pp. 441-448, July 2005. (SCI, EI)

20. **C. F. Juang** and C. F. Lu*, "Power system load frequency control by genetic fuzzy gain scheduling controller," *Journal of Chinese Institute of Engineers*, Vol. 28, No. 6, pp. 1013-1018, Oct. 2005. (SCI, EI)

21. **C. F. Juang*** and C. H. Hsu, "Temperature control by chip-implemented adaptive recurrent fuzzy controller designed by evolutionary algorithm," *IEEE Trans. Circuits and Systems- I: Regular Papers*, Vol. 52, No. 11, pp. 2376-2384, Nov. 2005. (SCI, EI)

22. **C. F. Juang***, "Simultaneous structure and parameter design of fuzzy systems by hybridizing multi-group genetic algorithm and particle swarm optimization," *Journal of Intelligent & Fuzzy Systems,* vol. 17, no. 2, pp. 83-93, 2006. (SCI, EI)

23. **C. F. Juang*** and C. F. Lu, "Load frequency control by hybrid evolutionary fuzzy PI controller," *IEE Proc. Generation, Transmission & Distribution*, vol. 153, no. 2, pp. 196-204, March 2006. (SCI, EI)

24. **C. F. Juang*** and J. S. Chen, "Water bath temperature control by a recurrent fuzzy controller and its FPGA implementation," *IEEE Trans. Industrial Electronics,* vol. 53, no. 3, pp. 941-949, June 2006. (SCI, EI)

25. **C. F. Juang*,** S. T. Huang, and F. B. Duh, "Mold temperature control of a rubber injection molding machine by TSK-type recurrent fuzzy network," *Neurocomputing*, vol. 70, no. 1-3, pp. 559-567, Dec. 2006. (SCI, EI)

26. F. B. Duh and **C. F. Juang***, "Radar pulse compression for point target and distributed target using neural network," *Journal of Information Science and Engineering*, vol. 23, no. 1, pp. 183-201, Jan. 2007. (SCI, EI)

27. **C. F. Juang*** and J. S. Chen, "A recurrent neural fuzzy network based inverse modeling method for a temperature system control," *IEEE Trans. Syst., Man, and Cyber., - Part C: Applications and Reviews,* vol. 37, no. 3, pp. 410-417, May 2007. (SCI, EI)

28. **C. F. Juang*,** C. T. Chiou, and C. L. Lai, "Hierarchical singleton-type recurrent neural fuzzy

networks for noisy speech recognition," *IEEE Trans. Neural Networks*, vol. 18, no. 3, pp. 833-843, May 2007. (SCI, EI)

29. **C. F. Juang***, I. F. Chung, and C. H. Hsu, "Automatic construction of feedforward/recurrent fuzzy systems by clustering-aided simplex particle swarm optimization," *Fuzzy Sets and Systems*, vol. 158, no. 18, pp 1979-1996, Sep. 2007. (SCI, EI)

30. **C. F. Juang** and I. F. Chung, "Recurrent fuzzy network design using hybrid evolutionary learning algorithms," *Neurocomputing*, vol. 70, pp. 3001-3010, Oct. 2007. (SCI, EI)

31. **C. F. Juang*,** S. H. Chiu, and S. W. Chang, "A self-organizing TS-type fuzzy network with support vector learning and its application to classification problems," *IEEE Trans. Fuzzy Systems*, vol. 15, no. 5, pp. 998-1008, Oct. 2007. (SCI, EI)

32. **C. F. Juang*** and C. M. Chang, "Human body posture classification by a neural fuzzy network and home care system application," *IEEE Trans. Syst., Man, and Cyber., Part A: Systems and Humans*, vol. 37, no. 6, pp. 984-994, Nov. 2007. (SCI, EI)

33. **C. F. Juang*,** S. H. Chiu, and S. J. Shiu, "Fuzzy system learned through fuzzy clustering and support vector machine for human skin color segmentation," *IEEE Trans. Syst., Man, and Cyber., Part A: Systems and Humans*, vol. 37, no. 6, pp. 1077-1087, Nov. 2007. (SCI, EI)

34. **C. F. Juang*,** H. S. Permg, and S. H. Chiu, "Block histogram-based neural fuzzy approach to the segmentation of skin colors," *Journal of Information Science and Engineering*, vol. 23, no. 6, pp. 1737-1752, Nov. 2007. (SCI, EI)

35. **C. F. Juang*** and T. M. Chen, "Birdsong recognition using prediction-based recurrent neural fuzzy networks," *Neurocomputing*, vol. 71, no. 1-3, pp. 121-130, Dec. 2007. (SCI, EI)

36. **C. F. Juang*** and C. I. Lee, "A fuzzified neural fuzzy inference network for handling both linguistic and numerical information simultaneously," *Neurocomputing*, vol. 71, no. 1-3, pp. 342-352, Dec. 2007. (SCI, EI)

37. **C. F. Juang*** and C. Lo, "Fuzzy systems design by clustering-aided ant colony optimization for plant control," *Int. Journal of General Systems*, vol. 36, no. 6, pp. 623-641, Dec. 2007. (SCI, EI)

38. **C. F. Juang*,** C. M. Lu, C. Lo, and C. Y. Wang, "Ant colony optimization algorithm for fuzzy controller design and its FPGA implementation," *IEEE Trans. Industrial Electronics*, vol. 55, no. 3, pp. 1453-1462, March 2008. (SCI, EI)

39. **C. F. Juang***, "A symbiotic genetic algorithm with local-and-global mapping search for reinforcement fuzzy control", *Journal of Intelligent & Fuzzy Systems*, vol. 19, no. 2, pp. 103-114, April 2008. (SCI, EI)

40. **C. F. Juang*** and L. T. Chen, "Moving object recognition by a shape-based neural fuzzy network," *Neurocomputing*, vol. 71, no 13-15, pp. 2937-2949, Aug. 2008. (SCI, EI)

41. **C. F. Juang*** and S. J. Shiu, "Using self-organizing fuzzy network with support vector learning for face detection in color images," *Neurocomputing*, vol. 71, no. 16-18, pp. 3409-3420, Oct. 2008. (SCI, EI)

42. **C. F. Juang*** and C. Lo, "Zero-order TSK-type fuzzy system learning using a two-phase swarm intelligence," *Fuzzy Sets and Systems*, vol. 159, no. 21, pp. 2910-2926, Nov. 2008. (SCI, EI)

43. **C. F. Juang*** and Y. W. Tsao, "A self-evolving interval type-2 fuzzy neural network with on-line

structure and parameter learning," *IEEE Trans. Fuzzy Systems*, vol. 16, no. 6, pp. 1411-1424, Dec. 2008. (SCI, EI)

44. **<u>C. F. Juang*</u>** and Y. W. Tsao, "A type-2 self-organizing neural fuzzy system and its FPGA implementation," *IEEE Trans. Syst., Man, and Cyber., Part B: Cybernetics*, vol. 38, no. 6, pp. 1537-1548, Dec. 2008. (SCI, EI)

45. **<u>C. F. Juang*</u>** and C. H. Hsu, "Reinforcement self-organizing fuzzy control using ant colony optimization," *Int. Journal of Computational Intelligence in Control*, vol. 1, no. 1, pp. 15-21, Jan.-June 2009.

46. **<u>C. F. Juang*</u>,** C. N. Cheng, and T. M. Chen, "Speech detection in noisy environments by wavelet energy-based recurrent neural fuzzy network," *Expert Systems with Applications*, vol. 36, no. 1, pp. 321-332, Jan. 2009. (SCI, EI)

47. **<u>C. F. Juang*</u>**, C. M. Chang, J. R. Wu, and D. M. Lee, "Computer vision-based human body segmentation and posture estimation," *IEEE Trans. Syst., Man, and Cyber., Part A: Systems and Humans*, vol. 39, no. 1, pp. 119-133, Jan. 2009. (SCI, EI)

48. **<u>C. F. Juang*</u>** and C. Y. Wang, "A self-generating fuzzy system with ant and particle swarm cooperative optimization," *Expert Systems with Applications*, vol. 36, no. 3P1, pp. 5362-5370, April 2009. (SCI, EI)

49. **<u>C. F. Juang*</u>**, C. L. Lai, and C. C. Tu, "Dynamic programming prediction errors of recurrent neural fuzzy networks for speech recognition," *Expert Systems with Applications*, vol. 36, no. 3P2, pp. 6368-6374, April 2009. (SCI, EI)

50. **<u>C. F. Juang*</u>** and C. D. Hsieh, "Fuzzy C-means based support vector machine for channel equalization," *Int. Journal of General Systems*, vol. 3, no. 3, pp. 273-289, April 2009. (SCI, EI)

51. **<u>C. F. Juang*</u>** and C. M. Lu, "Ant colony optimization incorporated with fuzzy Q-learning for reinforcement fuzzy control," *IEEE Trans. Syst., Man, and Cyber., Part A: Systems and Humans*, vol. 39, no. 3, pp. 597-608, May 2009. (SCI, EI)

52. **<u>C. F. Juang*</u>,** W. K. Sun and G. C. Chen, "Object detection by color histogram-based fuzzy classifier with support vector learning," *Neurocomputing*, vol. 72, no. 10-12, pp. 2464-2476, June 2009. (SCI, EI)

53. **<u>C. F. Juang*</u>** and C. D. Hsieh, "TS-fuzzy system based support vector regression," *Fuzzy Sets and Systems*, vol. 160, no. 17, pp. 2486-2504, Sep. 2009. (SCI, EI)

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