

# **MANSOUR M ALSULAIMAN, PhD**

## **Professor**

Computer Engineering, College of Computer & Information Sciences (CCIS)  
King Saud University, Riyadh 1543, Saudi Arabia

**Date of Birth:** 1955  
**Nationality:** Saudi  
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### **Educational Background:**

<b>Dates Attending</b>	<b>Degrees, Professional, &amp; Other Qualification</b>	<b>Names &amp; Address Institution</b>	<b>Thesis or Project Title</b>
1973 - 1977	B.Sc.	Riyadh University	“Electromagnetic Levitation
1978 - 1980	M.Sc.	University of Wisconsin, Madison	“Effect of Shaft Torsionmal Dynamics on Induction Machine Stability at High Slip”
1980 - 1987	Ph.D.	IOWA State University Ames	“An Investigation of Storage & Communication Codes for an Electrical Library”

**Major Area(s) of Specialization:** Computer Engineering

### **Current Research:**

1. Arabic Speaker/Speech Recognition,
2. Voice Pathology Recognition
3. Compter Assisted Error detection for L2 of Arabic Language

### **Employment History:**

<b>Dates (from - to)</b>	<b>Position, Title or Rank</b>	<b>Name &amp; Address of Institution or Organization</b>
1977- 1988	Teaching Assistant	Riyadh University
1988 - 1998	Assistant Professor	King Saud University
1998 -Now	Associate Professor	King Saud University

### **Membership of Professional/Scientific Organizations:**

- IEEE
- Saudi Computer Society

### **Professional Duties:**

- College representative in KSU Scientfic Council 2005 – 2009
- Member of Jouf University Scientfic Council 2011 – till now
- Editor-in-Chief King Saud University Journal – Computer Science 2008 - 2015
- Member of the Editorial Board of King Saud University Journal – Computer part 2006 -2008
- Director of Research Center 2009 - 2012
- Chairman of the Department of Computer Engineering 1994 - 1999
- Representative of the Computer Engineering Department in the College Council 1992-1994
- Vice chairman of the College Examination Committee 1991 – 1994

## **Publications**

### ***ISI Indexed Journal publications***

1. Zulfiqar Ali, Irraivan Elamvazuthi, Mansour Alsulaiman, Ghulam Muhammad, "Detection of Voice Pathology using Fractal Dimension in a Multiresolution Analysis of Normal and Disordered Speech Signals", *Journal of Medical Systems*, Springer, DOI:10.1007/s10916-015-0392-2, 2015.
2. Zulfiqar Ali, Irraivan Elamvazuthi, Mansour Alsulaiman, Ghulam Muhammad, "Automatic Voice Pathology Detection with Running Speech by Using Estimation of Auditory Spectrum and Cepstral Coefficients Based on the All-Pole Model", *Journal of Voice*, Elsevier, DOI:10.1016/j.jvoice.2015.08.010, 2015.
3. Zulfiqar Ali, Mansour Alsulaiman, Irraivan Elamvazuthi, Ghulam Muhammad, Tamer A. Mesallam, Mohamed Farahat, Khalid H. Malki, "Voice Pathology Detection based on the Modified Voice Contour and SVM", *Biologically Inspired Cognitive Architectures (BICA)*, Elsevier, DOI: 10.1016/j.bica.2015.10.004, 2015.
4. Awais Mahmood, Mansour Alsulaiman, Ghulam Muhammad, Sheeraz Akram, "Artificially Intelligent Recognition of Arabic Speaker using Voice Print Based Local Features", *Journal of Experimental & Theoretical Artificial Intelligence*, DOI: 10.1080/0952813X.2015.1055827, 2015.
5. Mohammed Algabri, Hassan Mathkour, Hedjar Ramdane, Mansour Alsulaiman, Khalid Al-Mutib, "Self-learning Mobile Robot Navigation in Unknown Environment Using Evolutionary Learning", *Journal Of Universal Computer Science*, vol. 20, no. 10, pp. 1459-1468, 2014.
6. Foudil abdessemed, Mohammed Faisal, Muhammed Emaduddin, Ramdane Hedjar, Khalid Al-Mutib, Mansour Alsulaiman and Hassan Mathkour, "A Hierarchical Fuzzy Control Design for Indoor Mobile Robot," in *International Journal of Advanced Robotic Systems*, vol. 11, no.33, 2014.
7. Mansour Alsulaiman, "Voice Pathology Assessment Systems for Dysphonic Patients: Detection, Classification, and Speech Recognition", *IETE Journal of Research*, vol. 60, no. 2, pp. 156-167, 2014.
8. Awais Mahmood, Mansour Alsulaiman, and Ghulam Muhammad, "Automatic Speaker Recognition using Multi Directional Local Features (MDLF)", *Arabian Journal of Science and Technology*, vol. 39, pp. 3799-3811, 2014.
9. Mansour Alsulaiman, Ghulam Muhammad, Mohamed A. Bencherif, Awais Mahmood, Zulfiqar Ali, "KSU Rich Arabic Speech Database", *Journal of Information*, vol. 16, no. 6(B), 2013.
10. M. Faisal, R. Hedjar, M. Alsulaiman and K. Mutib, "Fuzzy Logic Navigation and Obstacle Avoidance of Mobile Robot in Unknown Dynamic Environment", *International Journal of Advanced Robotic Systems*, vol. 10, no. 37, 2013.
11. Ghulam Muhammad, Tamer Mesallam, Khalid Almalki, Mohamed Farahat, Awais Mahmood, and Mansour Alsulaiman, "Multi Directional Regression (MDR) Based Features for Automatic Voice Disorder Detection," *Journal of Voice*, Elsevier, vol. 26, no. 6, pp. 817.e19-e27, 2012.
12. Muhammad, G.; AlMalki, K.; Mesallam, T.; Farahat, M.; Alsulaiman, M. and Bukhari, M. "Formant analysis in dysphonic patients and automatic Arabic digit speech recognition", *BioMedical Engineering Online*, Vol. 10, No. 41, pp. 1-12, 2011.

### ***Refreed Journal publications***

1. Zulfiqar Ali, Ghulam Muhammad, Mansour Alsulaiman, Irraivan Elamvazuthi and Khalid Al-Mutib, "Oriented and Interpolated Local Features for Speech Recognition of Vocal Fold Disordered Patients", *International Journal of Computers and Their Applications*, vol. 22, no. 1, 2015.
2. Mansour Alsulaiman, "Automatic Enlargement Of Speech Corpus by using Different Techniques", *Journal of Theoretical and Applied Information Technology*, vol. 62, no. 2, pp. 445-457, 2014.
3. Mutib, M. Emaduddin, M. Alsulaiman, H. Ramdane, & E. Mattar, "Motion Periodicity based Pedestrian Detection and Particle Filter based Pedestrian Tracking using Stereo Vision Camera," *International Journal of Computer Applications in Technology*, Inderscience, vol. 50, no. 1-2, pp. 113-121, 2014.

4. Ebrahim Abdulla Mattar, K. Al Mutib, M. Alsulaiman, H. Ramdane, Muhammad Emaduddin, "Neural Network Vision-Based Visual Servoing And Navigation for KSU-IMR Mobile Robot Using Epipolar Geometry," International Journal of Soft Computing and Software Engineering, vol. 3, no. 3, pp. 892-899, 2013.
5. Mansour Alsulaiman, "A technique to overcome the problem of small size database for automatic speaker recognition", International Journal of Physical Sciences, vol. 7, no. 13, pp. 2076 - 2084, 2012.
6. K. AlMutib, M. AlSulaiman, M. Emaduddin, and H. Ramdane, "D\* Lite Based Real-Time Multi-Agent Path Planning in Dynamic Environments," International Journal of Engineering Research and Applications, vol. 2, no. 2, pp.1414-1419, 2012.
7. Mansour Alsulaiman, Youssef Alotaibi, Muhammad Ghulam, Mohamed A. Bencherif and Awais Mahmood, "Arabic Speaker Recognition: Babylon Levantine Subset Case Study", Journal of Computer Science, vol. 6, no. 4, pp. 381-385, 2010.

### **Conferences publications**

1. Ahmed Al-nasheri, Zulfiqar Ali, Ghulam Muhammad, Mansour Alsulaiman, "An Investigation of MDVP Parameters for Voice Pathology Detection on Three Different Databases", Proc. of INTERSPEECH, Sep 6-10, 2015.
2. Ahmed Al-nasheri, Zulfiqar Ali, Ghulam Muhammad, Mansour Alsulaiman, Khalid H. Almalki, Tamer A. Mesallam, Mohamed Farahat, "Voice Pathology Detection with MDVP Parameters Using Arabic Voice Pathology Database", The 5th IEEE National Symposium on Information Technology: Towards New Smart World, Feb 16-18, 2015.
3. Ghulam Muhammad, Mansour Alsulaiman, Awais Mahmood, Malak Almojaly, and M.A. Bencherif, "Voice Pathology Detection using Multiresolution Technique," 8th European Modelling Symposium (EMS2014), Pisa, Italy, October 21-23, 2014.
4. Malak Almojaly, Ghulam Muhammad, and Mansour Alsulaiman, "Detection and Classification of Voice Pathology Using Feature Selection," 11th ACS/IEEE International Conference on Computer Systems and Applications, Doha, Qatar, November 10-13, 2014.
5. Afnan Alhindi, Mansour Alsulaiman, Ghulam Muhammad and Saad Al-Kahtani, "Automatic Pronunciation Error Detection of Nonnative Arabic Speech," 11th ACS/IEEE International Conference on Computer Systems and Applications, Doha, Qatar, November 10-13, 2014.
6. Ahmed Al-Nasheri, Zulfiqar Ali, Ghulam Muhammad, and Mansour Alsulaiman, "Voice Pathology Detection Using Auto-Correlation of Different Filters Bank," 11th ACS/IEEE International Conference on Computer Systems and Applications, Doha, Qatar, November 10-13, 2014.
7. Zulfiqar Ali, Ghulam Muhammad, Mansour Alsulaiman, Irraivan Elamvazuthi and Khalid Al-Mutib, "Automatic Speech Recognition for Dysphonic Patients by using Oriented Local Features," 27th International Conference on Computer Applications in Industry and Engineering, New Orleans, Louisiana, USA, October 13-15, 2014.
8. Mansour Alsulaiman, Hussein Obeidat, Saad Al-Kahtani, Zulfiqar Ali, Ghulam Muhammad, Afnan Al Hindi, Taha Alfakih, "Pronunciation Errors of Non-Arab Learners of Arabic Language", Int. Conf. on Computer, Communication and Control, Technology, pp. 270-275, Sep. 2014.
9. Khalid Almutib, Muhammad Emaduddin, Mansour Alsulaiman, Hedjar Ramdane and Ebrahim Mattar, "Reliable Multi-baseline Stereovision filter for Navigation in Unknown Indoor Environments" International Conference on Bioinformatics and Computational Biology (BICoB) March, 2014, Las Vegas, Nevada, USA
10. Khalid Almutib, Muhammad Emaduddin, Mansour Alsulaiman, Hedjar Ramdane and Ebrahim Mattar, "KSU-IMR Robotic System Control: Efforts Toward Integration of Artificial Vision with Artificial Intelligence," International Conference On Power, Control, Signals And Computation. January, Jan 2014, India.
11. Ghulam Muhammad, Zulfiqar Ali, Mansour Alsulaiman, Khalid Almutib, "Vocal Fold Disorder Detection by applying LBP Operator on Dysphonic Speech Signal", 2nd International Conference on Intelligent Control, Modelling and Systems Engineering, 29-31 Jan., 2014.
12. Alsulaiman M., "Effect of Spoken Text on Text-independent Speaker Recognition", 5th International conference on Intelligent Systems, Modelling and Simulation, 27-29 Jan., 2014. Available at <http://ijssst.info/Vol-15/No-3/data/3857a279.pdf>
13. M. Algabri, K. Al-Mutib, M. Alsulaiman, H. Ramdane, M. Emaduddin & E. Mattar, "Mobile Robot Navigation

and Obstacle-avoidance Using Neuro-fuzzy System in Unknown Environment,"CAINE 2013, 26th International Conference on Computer Applications in Industry and Engineering, September 25–27, 2013, California, USA

14. Alsulaiman M., Ali Z., Muhammad G., Bencherif M. A., Mahmood A., "KSU Speech Database: Text Selection, Recording and Verification", Proceeding of 7th European Modelling Symposium on Mathematical Modelling and Computer Simulation, 20-22 Nov., 2013.
15. Ali Z., Alsulaiman M., Muhammad G., Mesallam T. A., Irraivan E., "Vocal Fold Disorder Detection based on Continuous Speech by using MFCC and GMM", Proceedin of 7<sup>th</sup> IEEE GCC Conference and Exhibiton, pp. 384-289, 17-20 Nov. 2013.
16. Awais Mahmood, Mansour Alsulaiman, Ghulam Muhammad and Sid M. Selouani, "MDLF-Mavg: A New Speech Feature with a Voice Print", Proceeding of 7th IEEE GCC Conference and Exhibiton, pp. 602-606, 17-20 Nov., 2013
17. Mansour M. Alsulaiman, Ghulam Muhammad, Zulfiqar Ali, "Classification of Vocal Fold Diseases Using RASTA-PLP", Proceeding of the 2013 International Conference on Bioinformatics and Computational Biology, (BIOCOMP'13), 22-25 Jul., 2013.
18. K. Al-Mutib, M. Emaduddin, M. Alsulaiman, R. Hedjar, and E. Mattar, "Motion Periodicity based Pedestrian Detection and Particle Filter based Pedestrian Tracking using Stereo Vision Camera," Proceeding of the 19th International Conference on Mechatronics and Machine Vision in Practice, Auckland, New Zealand, 2012.
19. Mansour Alsulaiman, Zulfiqar Ali and Ghulam Muhammad, "Voice Intensity Based Gender Classification By Using Simpson's Rule With SVM", Proceeding of the IEEE 19th International Conference on Systems, Signals and Image Processing, IWSSIP, pp. 552-555, April 11-14, 2012 , Vienna, Austria, 2012.
20. M. Emaduddin, K. AlMutib, M. AlSulaiman, R. Hedjar, and E. Mattar, "Accurate Floor Detection and Segmentation for Indoor Navigation using RGB+D and Stereo Cameras," Proceedings of the 2010 International Conference on Image Processing, Computer Vision, & Pattern Recognition, Las Vegas, Nevada, USA, 2012.
21. Al Mutib, K.; Al Sulaiman, M.; Ramdane, H.; Emaduddin, M.M.; Mattar, E.A.; , "Active Stereo Vision for Mobile Robot Localization and Mapping Path Planning," Proceeding of the Computer Modelling and Simulation (UKSim), 2012 UKSim 14th International Conference on , vol., no., pp.293-299, 28-30 March 2012
22. K. Al-Mutib, E. A. Mattar, M. Al Sulaiman, H. Ramdane, & M. Emaduddin, "Neural Net Robotics Visual Servo: Learning the Epipolar Geometry," Proceedings of the International Conference on Artificial Intelligence, LAS Vegas, Navada, July 16-19. ICAI'12 , 2012, USA.
23. Mohamed Bencherif, Mansour Alsulaiman, Ghulam Muhammad, Ghassan H. Al Shatter, Saad A. Al-Kahtani, Zulfiqar Ali and Mohammed Al-Gabri, "Automatic Identification of Arabic L2 Learners Origin", Proceeding of the International Symposium on Automatic Detection of Errors in Pronouncing Training", IS ADEPT 2012, pp. 107-112, June 6-8, Stockholm, Sweden.
24. Mohamed A. Bencherif, Mansour Alsulaiman, Ghulam Muhammad, Zulfiqar Ali, Awais Mahmood," Gender Effect in Trait Recognition", Proceeding of the International conference on signal processing and image engineering 2012, San Francisco, USA
25. Awais Mahmood, Mansour Alsulaiman, and Ghulam Muhammad," Multidirectional Local Features for Speaker Recognition", Proceeding of ISMS 2012, February 2012, Kota Kinabalu, Malaysia
26. Alsulaiman, M. "Automatic Enlargement of Speech Corpus for Speaker Recognition", Proceedings of IEEE Symposium on Computers and Informatics, pp. 302-306, 2011.
27. Alsulaiman, M. "Speech Recognition for Medically Disordered Voice", Proceedings of 24th International Conference on Computers and their Applications in Industry and Engineering, CAINE, pp. 233-237, 2011
28. Alsulaiman, M.; Ali, Z. and Muhammad, G., "Gender Classification with Voice Intensity", Proceedings of IEEE UKSim 5th European Symposium on Computer Modeling and Simulation, pp. 205-209, 2011.
29. Alsulaiman, M.; Muhammad, G. and Ali, Z. "Comparison of Voice Features for Arabic Speech Recognition", Proceedings of the 6th IEEE International Conference on Digital Information Management, ICDIM 2011, pp. 90-95, 2011.

30. Muhammad, G.; AlMalki, K.; Mesallam, T.; Farahat, M. and Alsulaiman, M., "Automatic Arabic Digit Speech Recognition and Formant Analysis for Voicing Disordered People", Proceedings of IEEE Symposium on Computers and Informatics, pp. 669-702, 2011.
31. Awais Mahmood, Mansour M. Alsulaiman, Ghulam Muhammad, and Mohamed A. Bencherif, "Verification of A Rich Arabic Speech Database" Proceeding of COCOSDA 2011, October, Taiwan.
32. Mansour M. Alsulaiman, Ghulam Muhammad, Mohamed A. Bencherif, Awais Mahmood, Zulfiqar Ali, and Mohammad Aljabri, "Building a Rich Arabic Speech Database", Proceeding of the Fifth Asia International Conference on Mathematical Modeling and Computer Simulation (AMS '11), pp. 100-106, May 23, Malaysia.
33. Ghulam Muhammad, Mansour M. Alsulaiman, Zulfiqar Ali and Awais Mahmood, "Automatic Voice Disorder Classification using Vowel Formants", Proceeding of the 2011 IEEE International Conference on Multimedia and Expo (ICME 2011), July 11-15, 2011, Barcelona.
34. Mansour Alsulaiman, Ghulam Muhammad, Mohammed A. Alomari, Mohammed A. Alshehri, Zulfiqar Ali and Awais Mahmood, "An Automatic Diagnostic System for Medically Disordered Voice", Proceeding of the 2011 (IPCV'11), PP. 213-218, July 18-21, 2011, USA.
35. Al-Mutib, K.; Alsulaiman, M.; Emaduddin, M. and Ramdane, H., "D\* Lite based Real-Time Multi-Agent Path Planning in Dynamic Environments", Proceedings of 3<sup>rd</sup> International Conference Computational Intelligence, Modeling and Simulation (CIMSIM), 2011, 170-174.
36. Al Mutib, K.; Alsulaiman M.; Mathkour H.; Mattar, E. A. and Ramdane, H., "(KSU-IMR) An Intelligent Mobile Robotics System: Active Stereo Vision Path Planning Navigation For Unstructured Environments", Proceedings of 24th International Conference on Computers and their Applications Industry and Engineering, (CAINE 2011), 251-256.
37. Ramdane, H.; Alsulaiman, M. and Al-Mutib, K., "Approximated Nonlinear Predictive Control for Trajectory Tracking of a Wheeled Mobile Robot", Proceedings of the 1st IEEE International Conference on Robot, Vision and signal Processing, 2011, 296-299.
38. Mansour Alsulaiman, Awais Mahmood, Ghulam Muhammad, Muhammad A. Bencherif, and Yousef A. Alotaibi, "A Technique to Overcome the Problem of Small Size Database for Automatic Speaker Recognition", Proceeding of the 5<sup>th</sup> International Conference on Digital Information Management (ICDIM 2010), Lakehead University, Thunder Bay, Canada, July 05-08, 2010
39. Mansour Alsulaiman, Ghulam Muhammad, Yousef Alotaibi, Awais Mahmood, and Mohamed Abdelkader Bencherif "Building a Speaker Recognition System with one Sample", Proceedings of the Second Symposium International Computer Science and Computational Technology (ISCST '09) Huangshan, P. R. China, 26-28, Dec. 2009, pp. 330-334.
40. Sharaf Eldin, A., M. Al-Suliman, and A. Salama, "Client/Server Technology: Practical Considerations and Experience", Proceedings of the symposium of Computer Networking and Distributed Databases, 3-4 Mar. 1998, Riyadh, Saudi Arabia, pp. 223-232.
41. Al-Sulaiman, M., "Arabic Speech Recognition Using Neural Networks", Proceeding of International Conference on Information Technology and Multimedia at Uniten (ICIMU 98), Malaysia, 1998, pp. SB 6.1-6.9.
42. Khorsheed, M., Ahson, S.I., and Al-Sulaiman M.M., "A New Design Method for Neuro-Fuzzy Controllers", Second Annual Joint Conference on Information on Information Sciences, Willington, USA, Sept. 28 - Oct. 1, 1995.
43. Khorsheed, M., Ahson, S.I., and Al-Sulaiman M.M., "Truck-Backer Control Using Neuro-Fuzzy Systems", Proceeding of the 2nd Australian & New Zealand Conference on Intelligence Information Systems, Brisbane - Australia, Nov. 29-Dec.2, 1994, pp. 66-70.

44. Al-Sulaiman M.M.; Ahson S.I.; Al-Kanhal M.I.; "Construction of Arabic Phoneme Maps Using Learning Vector Quantization", Proceeding of World Congress on Neural Networks ,Portland, Oregon, July 11-15, 1993, U.S.A, Vol. IV, pp. 84-90.
45. Al-Sulaiman, M.M., Ahson, S.I., Al-Kanhal, M.I "Self Organizing Feature Maps for Arabic Phonemes", Proceeding of 9th International Conference on Mathematical and Computer Modeling, University of California, Berkeley, July 26-29, 1993.
46. Al-Sulaiman, M.M., Ahson, S.I., Ismail M., and Zaidan, M. "Recognition of Isolated Arabic Words Using Backpropagation Neural Networks", Proceeding of 9th International Conference on Mathematical and Computer Modeling, University of California, Berkeley, July 26-29, 1993.
47. Refenez A. N., Jain N., and Al-Sulaiman M.M., "Machine Vision Systems Integration in Industry", Proceeding of SPIE, March 1991, Vol. 1386, p. 62-74.

**Technical Reports:**

1. M. Alsulaiman, Y. Alotaibi, A. Mahmood, M. A. Bencherif, and Ghulam Muhammad, "Survey of Arabic Speaker Recognition".*Research Center, College of Computer and Information Sciences, King Saud University, Riyadh*, Report no. 8, 2011.