ALEIX M. MARTINEZ
Ohio State University

PERSONAL INFORMATION

Work address: 205 Dreese Labs
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The Ohio State University
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Lab webpage: http://cbcsl.ece.ohio-state.edu/

ACADEMIC EDUCATION

- Ph.D. in Computer Engineering, 1998
  UNIVERSITAT AUTÒNOMA DE BARCELONA (Barcelona, Spain)

- Ph.D. in Computer Science, 1998
  UNIVERSITÉ DE PARIS (Paris, France)

- M.S. in Computer Engineering, 1995
  UNIVERSITAT AUTÒNOMA DE BARCELONA (Barcelona, Spain)

POSITIONS HELD (INVERSE CHRONOLOGICAL ORDER)

2008-present	Associate Professor, Electrical and Computer Engineering, The Ohio State University, OH
2005-present	Founder and director of the *Computational Biology and Cognitive Science Lab*, The Ohio State University, OH
2005-present	Member of the Center for Cognitive Science, The Ohio State University, OH
2003-present	Participating Faculty in the Biomedical Engineering Department, The Ohio State University, OH
2002-2008	Assistant Professor, Electrical and Computer Engineering, The Ohio State University, OH
2000-2002	Research Associate, Electrical and Computer Engineering, Purdue University, IN
1999-2000	Associate Researcher, Sony Computer Science Lab., Paris, France
1998	Post-Doctoral Researcher, Electrical and Computer Engineering, Purdue University, IN
1997	Visiting Scholar, Electrical and Computer Engineering, Purdue University, IN
1996-1998	Teaching Assistant, Depart. Computer Engineering, Universitat Autónoma de Barcelona.
1994-1998	Research Assistant, Computer Vision Center (CE), Universitat Autónoma de Barcelona.

CURRENT RESEARCH FUNDING

- NIH R01-DC-005241 (NATIONAL INSTITUTES OF HEALTH), with Prof. Wilbur (Linguistics, Purdue University), "ASL NONMANUALS: A LINGUISTIC AND COMPUTATIONAL ANALYSIS." Award: $2,167,000.

- NSF IIS-07-13055 (NATIONAL SCIENCE FOUNDATION), "RI: Computer Vision Algorithms for the Study of Facial Expressions of Emotions in Sign Languages." Award: $366,171.

- Mathematical Bioscience Institute (NSF center), Mathematical Bioengineering program. Award: $15,000.

PAST RESEARCH FUNDING

- NSF BSC-99-05848 (NATIONAL SCIENCE FOUNDATION), Associate Researcher, 2000-2002.
- Doctoral Fellowship (FPI) from the *Ministerio de Educación y Ciencia* (Spanish NSF), 1994-1998.
- Grant from *Ministerio de Educación y Ciencia* (Spain) for graduate studies at University of Paris (France), 1996.
- Grant from *Ministerio de Educación y Ciencia* (Spain), collaboration with the Dept. Electrical and Computer Engineering, Purdue University, 1997.

EDITORIAL AND PUBLICATION REVIEW

Editor

- IEEE Transactions on Pattern Analysis and Machine Intelligence, Associate Editor, 2007-present.
- Image and Vision Computing, Editorial Board, 2008-present
- Journal of Intelligent Service Robotics, Springer, Editor, 2007-present.
- Encyclopedia of Biometric Recognition, Area Editor, to be published by Springer.

Guest Editor

- Co-Guest Editor of the special issue on *Face Recognition* in the journal *Computer Vision and Image Understanding*; with Prof. David Kriegman, University of California San Diego, and Dr. Ming-Hsuan Yang, Honda Research. Published in July-August 2003.

Conference Chair and Area Chair

- AREA CHAIR: IEEE Computer Vision and Pattern Recognition (CVPR), Anchorage (AK), 2008.
- AREA CHAIR: International Conference on Pattern Recognition (ICPR), Istanbul (Turkey), 2010.
- CO-GENERAL CHAIR AND CO-ORGANIZER: 2nd IEEE Workshop on Vision for Human-Computer Interaction, New York (NY), June 2006, with Prof. Larry Davis (UMD).
- CHAIR: 2nd IEEE Workshop on Face Processing from Video, Vancouver (Canada), May 2005.
- CO-GENERAL CHAIR AND CO-ORGANIZER: IEEE Workshop on Computer Vision and Pattern Recognition for Human-Computer Interaction, Madison (WI), June 2003, with Prof. Hong Tan (Purdue University).

Organizing Committee (others)

- PUBLICITY CHAIR: IEEE International Conference on Automatic Face and Gesture Recognition,

Amsterdam (The Netherlands), 2008.

- LOCAL COMMITTEE: IAPR National Symposium on Shape Analysis and Image Processing, Barcelona (Spain), 1997.

Program Committee at Conferences

1. GENETIC AND EVOLUTIONARY COMPUTATION CONFERENCE, ORLANDO (FLORIDA), 1999.
2. INTERNATIONAL CONFERENCE ON PATTERN RECOGNITION, QUEBEC CITY (CANADA), 2002.
3. IEEE CONFERENCE ON COMPUTER VISION AND PATTERN RECOGNITION, MADISON (WISCONSIN), 2003.
4. IEEE INTERNATIONAL CONFERENCE ON MULTIMEDIA AND EXPO, TAIPEI (TAIWAN), 2004.
5. INTERNATIONAL CONFERENCE ON PATTERN RECOGNITION, CAMBRIDGE (UK), 2004.
6. IEEE WORKSHOP ON APPLICATIONS OF COMPUTER VISION, BRECKENRIDGE (COLORADO), 2005.
7. IEEE INTERNATIONAL CONFERENCE ON MULTIMEDIA AND EXPO, AMSTERDAM (THE NETHERLANDS), 2005.
8. CANADIAN CONFERENCE ON COMPUTER AND ROBOT VISION, VANCOUVER (CANADA), 2005.
9. INTERNATIONAL CONFERENCE ON INFORMATICS IN CONTROL, AUTOMATION AND ROBOTICS, 2005.
10. IEEE WORKSHOP ON VISION FOR HUMAN-COMPUTER INTERACTION, SAN DIEGO (CALIFORNIA), 2005.
11. IEEE CONFERENCE ON COMPUTER VISION AND PATTERN RECOGNITION, SAN DIEGO (CALIFORNIA), 2005.
12. CANADIAN CONFERENCE ON COMPUTER AND ROBOT VISION, QUEBEC CITY (CANADA), 2006.
13. INTERNATIONAL CONFERENCE ON INFORMATICS IN CONTROL, AUTOMATION AND ROBOTICS, 2006.
14. INTERNATIONAL WORKSHOP ON VIDEO PROCESSING FOR SECURITY, QUEBEC CITY (CANADA), 2006.
15. EUROPEAN CONFERENCE ON COMPUTER VISION, GRAZ (AUSTRIA), 2006.
16. IEEE CONFERENCE ON COMPUTER VISION AND PATTERN RECOGNITION, NEW YORK (NY), 2006.
17. CANADIAN CONFERENCE ON COMPUTER AND ROBOT VISION, MONTREAL (CANADA), 2007.
18. IEEE INTERNATIONAL CONFERENCE ON BIOMETRICS: THEORY, APPLICATIONS, AND SYSTEMS, WASHINGTON DC, 2007.
19. INTERNATIONAL CONFERENCE ON INFORMATICS IN CONTROL, AUTOMATION AND ROBOTICS, 2007.
20. INTERNATIONAL WORKSHOP ON ARTIFICIAL INTELLIGENCE FOR HUMAN COMPUTING, HYDERABAD (INDIA), 2007.
21. IEEE WORKSHOP ON COMPONENT ANALYSIS METHODS FOR CLASSIFICATION, CLUSTERING, MODELING, AND ESTIMATION PROBLEMS IN COMPUTER VISION, MINNEAPOLIS (MN), 2007.
22. IEEE INTERNATIONAL CONFERENCE ON MULTIMEDIA AND EXPO, BEIJING (CHINA), 2007.
23. IEEE CONFERENCE ON COMPUTER VISION AND PATTERN RECOGNITION, MINNEAPOLIS (MN), 2007.
24. IEEE INTERNATIONAL CONFERENCE ON COMPUTER VISION, RIO DE JANEIRO (BRAZIL), 2007.
25. IEEE INTERNATIONAL CONFERENCE ON MULTIMEDIA AND EXPO, HANNOVER (GERMANY), 2008.
26. ACM INTERNATIONAL CONFERENCE ON MULTIMEDIA, VANCOUVER (CANADA), 2008.
27. CANADIAN CONFERENCE ON COMPUTER AND ROBOT VISION, WINDSOR (CANADA), 2008.
28. IEEE INTERNATIONAL CONFERENCE ON BIOMETRICS: THEORY, APPLICATIONS, AND SYSTEMS, WASHINGTON DC, 2008.
29. IEEE WORKSHOP ON HUMAN COMMUNICATIVE BEHAVIOR ANALYSIS, ANCHORAGE (AK), 2008.
30. INTERNATIONAL CONFERENCE ON PATTERN RECOGNITION, TAMPA (FL), 2008.
31. IEEE INTERNATIONAL CONFERENCE ON AUTOMATIC FACE AND GESTURE RECOGNITION, AMSTERDAM (THE NETHERLANDS), 2008.

32. EUROPEAN CONFERENCE ON COMPUTER VISION, MARSEILLE (FRANCE), 2008.

Reviewer at other Conferences

1. IEEE CONFERENCE ON COMPUTER VISION AND PATTERN RECOGNITION, FT. COLLINS (COLORADO), 1999.
2. ANNUAL MEETING OF THE COGNITIVE SCIENCE SOCIETY, FAIRFAX (VIRGINIA), 2002.
3. ACM INTERNATIONAL CONFERENCE ON MULTIMODAL INTERFACES, TRENTO (ITALY), 2005
4. EUROGRAPHICS, VIENNA (AUSTRIA), 2006.

Journal Reviewer

1. IEEE TRANSACTIONS ON PATTERN ANALYSIS AND MACHINE INTELLIGENCE.
2. IEEE TRANSACTIONS ON NEURAL NETWORKS.
3. IEEE TRANSACTIONS ON IMAGE PROCESSING.
4. IEEE TRANSACTIONS ON SIGNAL PROCESSING.
5. IEEE TRANSACTIONS ON SYSTEMS, MAN AND CYBERNETICS – A.
6. IEEE TRANSACTIONS ON SYSTEMS, MAN AND CYBERNETICS – B.
7. IEEE TRANSACTIONS ON SYSTEMS, MAN AND CYBERNETICS – C.
8. IEEE TRANSACTIONS ON MEDICAL IMAGING.
9. IEEE TRANSACTIONS ON MULTIMEDIA.
10. IEEE TRANSACTIONS ON ROBOTICS AND AUTOMATION.
11. IEEE TRANSACTIONS ON BIOMEDICAL ENGINEERING.
12. IEEE TRANSACTIONS ON INDUSTRIAL ELECTRONICS.
13. IEEE TRANSACTIONS ON CIRCUITS AND SYSTEMS FOR VIDEO TECHNOLOGY.
14. IEEE TRANSACTIONS ON INFORMATION FORENSICS AND SECURITY.
15. IEEE SIGNAL PROCESSING LETTERS.
16. COMPUTER VISION AND IMAGE UNDERSTANDING.
17. INTERNATIONAL JOURNAL OF COMPUTER VISION.
18. IMAGE AND VISION COMPUTING.
19. ACM COMPUTER SCIENCE SURVEYS.
20. PATTERN RECOGNITION.
21. PATTERN RECOGNITION LETTERS.
22. APPLICATIONS OF ARTIFICIAL INTELLIGENCE.
23. IMAGE COMMUNICATION.
24. IEE ELECTRONICS LETTERS.
25. IEE PROCEEDINGS – VISION, IMAGE AND SIGNAL PROCESSING.
26. COMPUTERS & GRAPHICS JOURNAL.
27. ROBOTICS AND AUTONOMOUS SYSTEMS.
28. INTERNATIONAL JOURNAL OF HUMANOID ROBOTICS.
29. INTERNATIONAL JOURNAL OF PATTERN RECOGNITION AND ARTIFICIAL INTELLIGENCE.
30. PATTERN ANALYSIS & APPLICATIONS JOURNAL.
31. MACHINE VISION AND APPLICATIONS JOURNAL.
32. JOURNAL OF BIOMECHANICS.
33. VISUAL COGNITION.
34. NEUROCOMPUTING.
35. BMC BIOINFORMATICS.

Reviewed for the following Funding Agencies

- NATIONAL INSTITUTES OF HEALTH (NIH), USA.
- NATIONAL SCIENCE FOUNDATION (NSF), USA.
- NATIONAL SCIENCE AND ENGINEERING RESEARCH COUNCIL OF CANADA (NSERC), CANADA.

- THE MATHEMATICS OF INFORMATION TECHNOLOGY AND COMPLEX SYSTEMS (MITACS), CANADA.
- THE LOUISIANA BOARD OF REGENTS, PFUND PROGRAM, USA.
- NETHERLANDS ORGANIZATION FOR SCIENTIFIC RESEARCH, THE NETHERLANDS.

Research and Textbooks Reviewed for

- PRENTICE-HALL.
- MCGRAW-HILL.

DEPARTMENT COMMITTEES AT OSU

- 2004-2005 UNDERGRADUATE STUDIES COMMITTEE (ABET).
- 2004-PRESENT DISTINGUISHED SEMINARS SERIES (CHAIR).
- 2002-PRESENT COMPUTER ENGINEERING COMMITTEE.
- 2005-PRESENT COMPUTER RESOURCE COMMITTEE.
- 2007-PRESENT ADMINISTRATIVE COMMITTEE, CENTER FOR COGNITIVE SCIENCE.

PATENTS

- "Method of recognizing partially occluded and/or imprecisely localized faces"
  Patented jointly by *Purdue University* and *Sony*
  Investigator: A.M. MARTINEZ
  PUB. NO. US 2003/0007669 AI

INVITED TALKS, TUTORIALS AND SEMINARS

- I have given several invited talks and seminars describing my research at several conferences, institutions and Universities in different countries. These talks usually describe our recent results in pattern recognition, face recognition and/or cognitive science. Some recent invited talks at conferences are:
  - "Bayes Optimality in Statistical Pattern Recognition"
    At the: IBERIAN CONFERENCE ON PATTERN RECOGNITION AND IMAGE ANALYSIS, JUNE 2007.
  - "Feature Extraction and Classification"
    At the: IEEE COMPUTER VISION AND PATTERN RECOGNITION CONFERENCE (CVPR), JUNE 2007.
  - "How the Face and Hands Talk: Adventures in the modelling of sign languages"
    At the: IEEE COMPUTER VISION AND PATTERN RECOGNITION CONFERENCE, WORKSHOP (CVPR), JUNE 2008.

GRADUATE STUDENTS

Current Graduate Students

Hongjun Jia	PhD candidate – Dept. of Electrical and Computer Engineering (expected Fall 08).
Ding Liya	PhD student – Dept. of Electrical and Computer Engineering (expected Winter 09).
Di You	PhD student – Dept. of Electrical and Computer Engineering.
Samuel Rivera	PhD student – Dept. of Electrical and Computer Engineering.
Carlos Benitez	PhD student – Dept. of Electrical and Computer Engineering.
Shichuan Du	PhD student – Dept. of Electrical and Computer Engineering.
Danelle Willbraham	PhD Student – Dept. of Psychology. Co-advised with Prof. J.T. Todd, Dept. of Psychology.

Post-Docs

Dr. Onur Hamsici	Postdoctoral student, 2008 – present.
Dr. Jeff Fortuna	Postdoctoral student, 2005 – 2006 (*Now at McMaster University*).

Past Graduate Students at OSU

Onur Hamsici	Ph.D., Dept. of Electrical and Computer Engineering, The Ohio State University. Thesis: "Bayes Optimality in Classification, Feature Extraction and Shape Analysis." August 2008.
Donald Neth	Ph.D., Dept. of Biomedical Engineering, The Ohio State University. Thesis: "Facial Configuration and the Perception of Facial Expression." August 2007.
Seyfettin Bilgin	MS, Dept. of Electrical and Computer Engineering, March 2007.
Manli Zhu	Ph.D., Dept. of Electrical and Computer Engineering, The Ohio State University. Thesis: "The Role of the Eigenvalue Decomposition in Discriminant Analysis." August 2006.
Danelle Willbraham	M.S., Dept. of Psychology, The Ohio State University. Co-advised with Prof. J.T. Todd, Dept. of Psychology. Thesis: "Human Recognition of Faces Across Changing Context Is Not Dependent of Image Similarity." September 2005.
Onur Hamsici	M.S., Dept. of Electrical and Computer Engineering, The Ohio State University. Thesis: "Feature Extraction: The role of subclass divisions and spherical representations." August 2005.
Yongbin Zhang	M.S., Dept. of Electrical and Computer Engineering, The Ohio State University. Thesis: "Face Analysis from Video." March 2005.

Visiting Scholars at OSU

2008-2009 Prof. Jiatao Song
2005-2006 Dr. Chul-Hyun Park; *Now at Samsung Research (Korea)*

CITATIONS

- According to the citation indices of ISI and Google-scholar, the papers detailed below have been cited over **1,500** times.
- The paper "PCA versus LDA" is one of the most cited papers (in the top 2%) of all those **ever** published in IEEE Transactions on Pattern Analysis and Machine Intelligence.
- According to ISI, IEEE Transactions on Pattern Analysis and Machine Intelligence had (in 2006) the highest citation index of all journals in electrical engineering and the 5th highest in computer science.
- The paper "recognizing imprecisely localized, partially occluded and expression variant faces from a single sample per class" is also a well cited paper, in the top 9% of all those published in IEEE Transactions on Pattern Analysis and Machine Intelligence.
- The AR-face database is currently **the most** cited dataset of face images in the world and has become a standard dataset in papers on face and pattern recognition. At present, it has been downloaded by more than **1,000** researchers. A Google search on "face database" shows the AR face database webpage as the **first** (top) site on the net.

JOURNAL PUBLICATIONS

1. Ding, L. & Martinez, A.M., "Modelling and Recognition of the Linguistic Components in American Sign Language," *submitted*.

2. Hamsici, O.C. & Martinez, A.M., "Rotation Invariant Kernels and Their Application to Shape Analysis," IEEE Transactions on Pattern Analysis and Machine Intelligence, *accepted*.

3. Jia, H. & Martinez, A.M., "Low-Rank Matrix Fitting Based on Subspace Perturbation Analysis with Applications to Structure from Motion," IEEE Transactions on Pattern Analysis and Machine Intelligence, *accepted*.

4. Neth, D. & Martinez, A.M., "Emotion Perception in Emotionless Face Images Suggests a Norm-based Representation," Journal of Vision, *accepted*.

5. Wilbraham, D., Christensen, J., Martinez, A.M. & Todd, J.T., "Can low level image differences account for the ability of human observers to discriminate facial identity?" Journal of Vision, *in press*.

6. Martinez, A.M. & Hamsici, O.C., "Who Is LB1? Discriminant Analysis for the Classification of Specimens," Pattern Recognition, 41(11): 3436-3441, 2008.

7. Zhu, M. & Martinez, A.M., "Using the Information Embedded in the Testing Sample to Break the Limits Caused by the Small Sample Size in Microarray-based Classification," BMC Bioinformatics, 9:280, 2008.

8. Hamsici, O.C. & Martinez, A.M., “Bayes Optimality in Linear Discriminant Analysis,” IEEE Transactions on Pattern Analysis and Machine Intelligence, Vol. 30, No. 4, pp. 647-657, 2008.

9. Zhu, M. & Martinez, A.M., “Pruning Noisy Bases in Discriminant Analysis,” IEEE Transactions on Neural Networks, Vol. 19, No. 1, pp. 148-157, 2008.

10. Hamsici, O.C. & Martinez, A.M., “Spherical-Homoscedastic Distributions: The equivalency of Normal and spherical distributions in classification,” Journal of Machine Learning Research, 8(Jul):1583-1623, 2007.

11. Zhu, M. & Martinez, A.M., “Subclass Discriminant Analysis,” IEEE Transactions on Pattern Analysis and Machine Intelligence, Vol. 28, No. 8, pp. 1274-1286, 2006.

12. Zhang, Y. & Martinez, A.M., “A Weighted Probabilistic Approach to Face Recognition from Multiple Images and Video Sequences s,” Image and Vision Computing, Vol. 24, No. 6, pp. 626-638, 2006.

13. Martinez, A.M. & Zhu, M., “Where Are Linear Feature Extraction Methods Applicable?” IEEE Transactions on Pattern Analysis and Machine Intelligence, Vol. 27, No. 12, 2005.

14. Kim, Y., Martinez, A.M. & Kak, A.C., “Robust Motion Estimation under Varying Illumination,” Image and Vision Computing, Vol. 23, no. 4, pp. 365-375, 2005.

15. Martinez, A.M., Mittrapiyanuruk, P. & Kak, A.C., “On Combining Graph-Partitioning with Non-Parametric Clustering for Image Segmentation,” Computer Vision and Image Understanding, Vol. 95, No. 1, pp. 72-85, 2004.

16. Martinez, A.M., “Matching Expression Variant Faces,” Vision Research, Vol. 43, pp. 1047-1060, 2003.

17. Martinez, A.M., Yang, M-H. & Kriegman D.J. “Introduction to Face Recognition,” Computer Vision and Image Understanding, Vol. 91, No. 1/2, pp. 1-5, 2003.

18. Martinez, A.M., “Recognizing Imprecisely Localized, Partially Occluded and Expression Variant Faces from a Single Sample per Class,” IEEE Transactions on Pattern Analysis and Machine Intelligence, Vol. 32, No. 6, pp. 748-763, 2002.

19. Martinez, A.M & Vitria, J., “Clustering in Image Space for Place Recognition and Visual Annotations for Human-robot Interaction,” IEEE Transactions on System, Man and Cybernetics B, Vol. 31, No. 5, pp. 669-682, 2001.

20. Martinez, A.M. & Kak, A.C., “PCA versus LDA,” IEEE Transactions on Pattern Analysis and Machine Intelligence, Vol. 23, No. 2, pp. 228-233, 2001.

21. Martinez, A.M. & Vitria, J., “Learning Mixture Models Using a Genetic Version of the EM Algorithm,” Pattern Recognition Letters 21, 759-769, 2000.

22. Martinez, A.M. & Serra, J.R., **“**A New Approach to Object-Related Image Retrieval,” Journal of Visual Languages and Computing Vol.11, No. 3, pp. 345-363, 2000.

BOOK CHAPTERS

23. Martinez, A.M., "Face Recognition, Overview," Encyclopedia of Biometrics, Springer, *in press*.

24. Hamsici, O.C. & Martinez, A.M., "Face Recognition, Component-based," Encyclopedia of Biometrics, Springer, *in press*.

25. Neth, D. & Martinez, A.M., "A Biologically Inspired Model for the Simultaneous Recognition of Identity and Expression," Biometrics: Theory, Methods, and Applications (Eds. N.V. Boulgouris, E. Micheli-Tzanakou & K.N. Plataniotis), Wiley, 2008.

26. Martinez, A.M. & Zhang, Y., "Subset Modeling of Face Localization Error, Occlusion, and Expression," In *Face Processing: Advance Modeling and Methods* (edited by R. Chellappa & W. Zhao), Academic Press, 2005.

27. Wilbur, R.B. & Martinez, A.M., "Physical Correlates of Prosodic Structure in American Sign Language," In Chicago Linguistic Society, Vol. 38, 2002.

28. Martinez, A.M. & Vitria, J., "Dimensionality Reduction for Face Recognition," In *Advances in Visual Form Analysis*, C.Arcelli, L.P. Cordella and G.S. di Baja Eds., World Scientific, 1997.

29. Martinez, A.M. & Vitria, J., "Designing and Implementing Real Walking Agents Using Virtual Environments," In *Applications of Artificial Intelligence*, N.J. Manede and C. Pietro-Ferreira, Eds., Scitec Publications Ltd., 1996.

CONFERENCE PUBLICATIONS

30. Jia, H. & Martinez, A.M., "Face Recognition with Occlusions in the Training and Testing Sets," In *Proceedings of IEEE International Conference of Automatic Face and Gesture Recognition* (FG), Amsterdam (The Netherlands), September 2008.

31. Ding, L. & Martinez, A.M., "Precise Detailed Detection of Faces and Facial Features," In *Proceedings of IEEE Computer Vision and Pattern Recognition* (CVPR), Anchorage (AK), 2008.

32. Hamsici, O.C. & Martinez, A.M., "Spherical-Homoscedastic Shapes," In *Proceedings of IEEE International Conference on Computer Vision* (ICCV), Rio de Janeiro (Brazil), 2007.

33. Ding, L. & Martinez, A.M., "Recovering the Linguistic Components of the Manual Signs in American Sign Language," In *Proceedings of the IEEE International Conference on Advanced Video and Signal-based Surveillance*, London (UK), 2007.

34. Hamsici, O.C. & Martinez, A.M., "Sparse Kernels for Bayes Optimal Discriminant Analysis," IEEE Computer Vision and Pattern Recognition, Workshop (CVPR), Minneapolis (MN), 2007. [**Best paper award**.]

35. Zhu, M. & Martinez, A.M., "Selecting Principal Components in a Two-Stage LDA Algorithm," In *Proceedings of the IEEE Computer Vision and Pattern Recognition Conference* (CVPR), New York (NY), 2006.

36. Ding, L. & Martinez, A.M., "Three-dimensional Reconstruction of Shape and Motion for the

Analysis of American Sign Language," In *Proceedings of the IEEE Workshop on Vision for Human-Computer Interaction*, New York (NY), 2006.

37. Fortuna, J. & Martinez, A.M., "A Blind Source Separation Approach to Structure from Motion," *Third International Symposium on 3D Data Processing, Visualization and Transmission*, Chapel Hill (NC), 2006.

38. Jia, H., Fortuna, J. & Martinez, A.M. "Perturbation Estimation of the Subspaces for Structure from Motion with Noisy and Missing Data," *Third International Symposium on 3D Data Processing, Visualization and Transmission*, Chapel Hill (NC), 2006. [**NSF travel award**.]

39. Hamsici, O.C. & Martinez, A.M., "Evaluation of the Modeling of Local Areas and Errors of Localization in FRGC'05," In *Proceedings of the IEEE Workshop on Face Recognition Grand Challenge Experiments*, San Diego (CA), 2005.

40. Kim, Y., Martinez, A.M. & Kak, A.C., "A Local Approach for Robust Optical Flow Estimation under Varying Illumination," In *Proceedings of the British Machine Vision Conference (BMVC)*, London (UK), 2004.

41. Zhang, Y. & Martinez, A.M. "Recognition of Expression Variant Faces Using Weighted Subspaces," In *Proceedings of the International Conference on Pattern Recognition (ICPR)*, Cambridge (UK), 2004.

42. Zhu, M. & Martinez, A.M. "Optimal Subclass Discovery for Discriminant Analysis," In *Proceedings of the IEEE Workshop on Learning in Computer Vision and Pattern Recognition* (LCVPR), Washington D.C. (USA), 2004.

43. Zhang, Y. & Martinez, A.M. "From Static to Video: Face Recognition Using a Probabilistic Approach," In *Proceedings of the IEEE Workshop on Face Processing in Video* (FPIV), Washington D.C. (USA), 2004.

44. Martinez, A.M., "Recognizing Expression Variant Faces from a Single Sample Image per Class," In *Proceedings of the IEEE Computer Vision and Pattern Recognition* (CVPR), Madison (USA), 2003.

45. Zhu, M., Martinez, A.M. & Tan, H., "Template-based Recognition of Static Sitting Postures," In *Proceedings IEEE Computer Vision and Pattern Recognition for Human Computer Interaction*, Madison (USA), 2003.

46. Martinez, A.M., Wilbur, R.W., Shay, R. & Kak, A.C., "Purdue ASL Database for Automatic Recognition of American Sign Language," In *Proceedings of the IEEE International Conference on Multimodal Interfaces* (ICMI), Pittsburgh (USA), 2002.

47. Martinez, A.M., "Recognition of Partially Occluded and/or Imprecisely Localized Faces Using a Probabilistic Approach," In *Proceedings of the IEEE Computer Vision and Pattern Recognition* (CVPR), Vol. I, pp. 712-717, Hilton-Head Island (USA), 2000.

48. Martinez, A.M., "Semantic Access of Frontal Face Images," In *Proceedings of IEEE Workshop on Content-Based Access of Images and Video Libraries*, pp. 55-59, Hilton-Head Island (USA), 2000.

49. Martinez, A.M. & Serra, J.R., "Semantic Access to a Database of Images: An approach to object-related image retrieval," In *Proceedings of IEEE Multimedia Computing and Systems* (ICMCS), Vol. I, pp. 624-629, Florence (Italy), 1999.

50. Martinez, A.M., "Face Image Retrieval Using HMMs," In *Proceedings of IEEE Workshop on Content-Based Access of Images and Video Libraries*, pp. 35-39, Fort Collins (USA), 1999.

51. Martinez, A.M., "Recognition of Partially Occluded Faces," In *Proceedings of Sony Research Forum*, Tokyo (Japan), 1999.

52. Martinez, A.M. & Vitria, J., "From Visual Scanning to Object Recognition," In Proceedings of SNRFAI -- *Symposium on Recognition of Form and Analysis of Images*, Barcelona (Spain), 1997.

53. Martinez, A.M., Gonzales, S., Vitria, J. & Lopez-Krahe, J., "NAT: A robot that recognizes offices," In *Proceedings of the Conference of the Spanish Association for Artificial Intelligence (CAEPIA)*, Malaga (Spain), 1997.

54. Martinez, A.M., Vitria, J. & Lopez-Krahe, J., "Visual Recognition of Surroundings: A robot that knows where it is," Intelligence Artificielle et Complexité, Paris (France), 1997.

55. Martinez, A.M. & Vitria, J., "Designing and Implementing Real Walking Agents Using Virtual Environments," In Workshop on *Applications of Artificial Intelligence to Robotics and Visual Systems*, Madeira (Portugal), 1995.

56. Avellana, N., et al., "A Configurable Massively Parallel Neuroemulator System," In Proc. of Eurochip, Fifth European Workshop on VLSI Design, Dresden (Germany), 1994.

REFEREED ABSTRACTS

57. Martinez, A.M. & Neth, D., "Emotion Perception in Neutral Expressions," *Meeting of the Vision Science Society (in Journal of Vision)*, Naples (FL), 2008.

58. Wilbraham, D., & Christensen, J.C., Todd, J.T. & Martinez, A.M., "The Effect of Homeomorphic Image Transformations on Face Matching Performance," *Meeting of the Vision Science Society (in Journal of Vision)*, Naples (FL), 2008.

59. Martinez, A.M. & Neth, D., "Face Configuration Biases the Perception of Facial Expressions," *Meeting of the Vision Science Society (in Journal of Vision)*, Sarasota (FL), 2007.

60. Wilbraham, D., & Christensen, J., Todd, J.T. & Martinez, A.M., "Human Face Matching Performance Is Robust to Task-Irrelevant Image Changes," *Meeting of the Vision Science Society (in Journal of Vision)*, Sarasota (FL), 2007.

61. Martinez, A.M., Wilbraham, D., Todd, J.T. & Christensen, T., "Can low level image differences account for face discrimination performance?" *Meeting of the Vision Science Society (in Journal of Vision)*, Sarasota (FL), 2006.

62. Wilbraham, D., Martinez, A.M. & Todd, J.T., "The effects of illumination and expression changes on the recognition of human faces," *Meeting of the Vision Science Society (in Journal of*

Vision), Sarasota (FL), 2006.

63. Wilbur, R.B. & Martinez, A.M., "Physical Correlates of Prosodic Structure in ASL," *Annual Meeting of the Chicago Linguistic Society*, Chicago (USA), 2002.

64. Martinez, A.M. "Recognition in Early Attention," In *Proceedings of European Conference on Visual Perception (in Perception, Supplements)*, Trieste (Italy), 1999.

65. Martinez, A.M. & Vitria, J., "A Development Platform for Autonomous Agents," In *Practice and Future of Autonomous Agents, ASI-AA*, Verita (Switzerland), 1995.

CO-AUTHORED TEXTBOOKS

66. Lopez, A., Lumbreras, F., Martinez, A.M., Serrat, J, Roca, X, Varona, X. & Vitria, J., "Applicaciones de la vision por computadora a la industria (in Spanish)," CVC Ed., 1997 (ISBN 84-922529-3-6)

EDITED PROCEEDINGS

67. Martinez, A.M. & Davis, L.S., Eds., 2nd IEEE Workshop on Vision for Human-Computer Interaction, 2006.

68. Gorodnichy, D. & Martinez, A.M., Eds., 2nd IEEE Workshop on Face Processing in Video, 2005.

69. Martinez, A.M. & Hong, T., Eds., IEEE Workshop on Computer Vision and Pattern Recognition for Human-Computer Interaction, 2003.

OTHER RELEVANT PUBLICATIONS

70. Martinez, A.M. & Benavente, R., "The AR-face Database," CVC Technical Report #24, June 1998.

DATABASES

- *The AR-Face Database*:
  This database of face images is one of the most complete datasets of frontal face images developed to date. The AR database is publicly available for research purposes at no cost. To date, this database has been downloaded by more than **1,000** research groups around the world. The database and the Technical Report that describes it have been cited in about **500** scientific publications since it was first released in 1998. A Google search on "face database" shows the AR face database webpage as the first (top) site on the net.
  HTTP: http://rvl1.ecn.purdue.edu/~aleix/aleix_face_DB.html

- *Purdue ASL (American Sign Language) Database*:
  This new database collects a set of videos of basic motions, hand-shapes and narratives recorded from a total of 14 ASL native signers. The database consists of 2576 videos (184 videos/signer). The narratives are of at least 3 sentences in sequence so that syntactic, phonological and prosodic analysis can be conducted. These short narratives also include various types of nonmanuals (i.e., linguistically meaningful facial expressions). This database is available to the research community.
  HTTP: http://www.ece.osu.edu/~aleix/ASLdatabase.htm