

Curriculum Vitae

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1 EDUCATION

1997 Ph.D. in Computer Science, University of Pennsylvania, Philadelphia, PA
1991 M.Sc. in Computer Science, Northeastern University, Boston, MA
1989 Ptychion (B.Sc.) in Physics, University of Athens, Athens, Greece

2 ACADEMIC APPOINTMENTS

2020 – present Hugh Roy and Lillie Cranz Cullen Distinguished University Professor,
Departments of Computer Science (CS), Physics, Health Systems & Population Health Sciences,
Electrical and Computer Engineering (ECE), and Biomedical Engineering (BME),
University of Houston (UH)
2011 – 2020 Hugh Roy and Lillie Cranz Cullen Distinguished University Professor,
Departments of CS, ECE, and BME, UH
2006 – present Adjunct Professor, School of Biomedical Informatics,
University of Texas Health Science Center (UTHealth)
2006 – 2011 Eckhard Pfeiffer Professor, CS, ECE, and BME, UH
2003 – 2006 Associate Professor, Departments of CS and ECE, UH
2003 – 2006 Adjunct Associate Professor, School of Biomedical Informatics, UTHealth
2000 – 2002 Adjunct Assistant Professor, Department of Plastic Surgery,
University of Texas M.D. Anderson Cancer Center
1999 – 2003 Adjunct Assistant Professor, School of Biomedical Informatics, UTHealth
1997 – 2003 Assistant Professor, CS, UH
1996 – 1997 Post-Doctoral Fellow, Department of Computer and Information Science,
University of Pennsylvania (UPENN), Philadelphia, PA

3 LEADERSHIP/ADMINISTRATIVE APPOINTMENTS

2020 – 2022 Cluster Chair, AI in Healthcare
Gulf Coast Consortia, Houston, TX, USA
2011 – 2022 UH Program Representative, Gulf Coast Consortia - Computational Cancer Biology
Training Program, Houston, TX, USA
2019 – 2020 Program Director, Research Experience for Undergraduates (REU), “Frontiers of
Data-Driven Computing,” CS, UH
2018 – 2019 Program Director, REU, Data-Centric Computing, CS, UH
2015 – 2018 Director, Borders, Trade, and Immigration Institute: A DHS Center for Excellence
2013 – 2015 Associate Chair, CS, UH
2010 – 2011 Program Director, REU, Data-Centric Computing, CS, UH
2008 Director, Methodist Hospital Research Institute-UH-Weill Cornell Medical College,
Institute for Biomedical Imaging Sciences (IBIS) (position rotates annually)
2007 Chairman, Steering Committee, IBIS (position rotates annually)
2005 – Present Director, Computational Biomedicine Lab, CS, UH
2000 – 2002 Director, Virtual Environments Research Institute, UH
1997 – 2005 Director, Visual Computing Lab, Dept. of Computer Science, UH

4 RESEARCH & SCHOLARSHIP

4.1 Ph.D. Thesis

Title: Motion-Based Part Segmentation, Shape and Motion Estimation
of Multi-Part Objects: Application to Human Body Tracking
Advisor: Professors Dimitri Metaxas and Ruzena Bajcsy
Institution: University of Pennsylvania

4.2 B.Sc. Thesis

Title: An Advisor for the NAG (Numerical Algorithms Group) Library

Advisors: Professors Georgios Philokyprou and Maria Katzouraki
 Institution: University of Athens, Greece

4.3 Honors and Awards

- 2022 Award for Excellence in Research, Scholarship and Creative Activity Program, UH, Houston, TX
- 2021 Among the top 2 percent most-cited scientists in the world, in “August 2021 data-update for Updated science-wide author databases of standardized citation indicators.”
- 2020 50 in 5 Scholar, UH, Houston, TX
- 2019 Best Reviewer Award, IEEE Conference on Computer Vision and Pattern Recognition, Long Beach, CA
- 2018 Keynote Speaker, AI-Powered Data Science, Data Sensing, Science and Systems for Space Symposium, Houston, TX
- 2017 Keynote Speaker, Creating Public-Private Partnerships, T.T. Chao Symposium on Innovation, Houston, TX
- 2017 Keynote Speaker, 2nd International Workshop on Biometrics in the Wild 2017 (BWild 2017), Washington DC
- 2017 Best Paper Award, International Joint Conference on Biometrics
- 2016 Honorable Mention Paper Award, IAPR/IEEE International Conference on Biometrics
- 2015 Best Paper Award, International Symposium on Technologies for Homeland Security
- 2015 Certificate of Excellence, UH, College of Natural Science and Mathematics
- 2014 Keynote Speaker, International Conference of the Biometrics Special Interest Group (BIOSIG)
- 2013 Best Paper Award, International Conference on Computer Vision Theory and Applications
- 2012 Keynote Speaker, European Conference on Computer Vision Workshop: What’s in a Face?, Firenze, Italy
- 2012 Keynote Speaker, SPIE: Biometric Technology for Human Identification IX, Baltimore, Maryland
- 2012 Keynote Speaker, 3rd International Workshop on Computer Vision for Computer Games (CVCg), Providence, Rhode Island
- 2012 Keynote Speaker, International Conference on Information Communication Technologies in Health
- 2012 Keynote Speaker, International Conference on Signal, Image, and Video Processing (ICSIVP)
- 2011 Keynote Speaker, Conference on Challenges and Solutions in Medicine in the 21st Century,
- 2011 Hugh Roy and Lillie Cranz Cullen Distinguished Professor, UH
- 2011 Best-Reviewed Paper, International Joint Conference on Biometrics
- 2010 Keynote Speaker, Conference on Challenges and Solutions in Medicine in the 21st Century
- 2010 Keynote Speaker, XI Mexican Symposium on Computer-Aided Surgery and Medical Image Analysis
- 2010 Keynote Speaker, 6th International Symposium on Visual Computing
- 2010 Outstanding Reviewer Award, IEEE Conference on Computer Vision and Pattern Recognition
- 2010 Heart Disease Awareness Night Honoree, Houston, TX
- 2009 Keynote Speaker, 14th Iberoamerican Congress on Pattern Recognition, Guadalajara, Mexico
- 2009 Keynote Speaker, International Special Topic Conference on Information Technology in Biomedicine, Larnaca, Cyprus
- 2009 Keynote Speaker, WSEAS International Conference on Computational and Information Sciences, UH, Houston, TX
- 2008 Keynote Speaker, Texas Life Science Conference (TLSC) Oncology Forum, Houston, TX
- 2008 Keynote Speaker, Pumps and Pipes 2, Houston, TX
- 2008 Keynote Speaker, 8th IEEE International Conference on BioInformatics and BioEngineering (BIBE), Athens, Greece
- 2008 Keynote Speaker, 25th Annual Houston Conference on Biomedical Engineering Research, Houston, TX
- 2008 Society for Engineering in Medicine and Biology, Houston, TX
- 2007 First Place, Face Recognition Vendor Test (3D Shape Category)
- 2007 Keynote Speaker, 6th Annual International Cardiology Congress, Athens, Greece
- 2007 Keynote Speaker, International Conference VipIMAGE - I ECCOMAS Thematic Conference on Computational Vision and Medical Image Processing, Porto, Portugal
- 2007 Keynote Speaker, AIP Conference on Data Mining, Systems Analysis and Optimization in Biomedicine, Gainesville, FL
- 2007 Keynote Speaker, 3rd Annual Workshop in Interdisciplinary Computational Science, Houston, TX
- 2006 Eckhard Pfeiffer Distinguished Professor, Dept. of Computer Science, UH

- 2006 Best Poster Award, International Greek Biotechnology Forum, Athens, Greece
- 2006 Best Poster Award, Hellenic Congress of Atherosclerosis, Athens, Greece
- 2006 Keynote Speaker, 5th Annual International Cardiology Congress, Thessaloniki, Greece
- 2006 Keynote Speaker, 23rd Annual Houston Conference on Biomedical Engineering Research, Houston Society for Engineering in Medicine and Biology, Houston, TX
- 2004 Keynote Speaker, 14th Annual Keck Center Research Conference, Houston, TX
- 2003 Research Excellence Award, Dept. of Computer Science, UH
- 2003 UH Teaching Excellence Award, UH
- 2003 AEHA James E. Muller Vulnerable Plaque New Investigator Prize for Clinical Research
- 2003 Keynote Speaker, 13th Scandinavian Conference on Image Analysis, Goteborg, Sweden
- 2002 IEEE Distinguished Visitor
- 2002 President, University of Houston Chapter of Sigma Xi
- 2002 Keynote Speaker, XI International Conference on Computing, Mexico City, Mexico
- 2002 Keynote Speaker, AMDO'02 - IAPR Second International Workshop on Articulated Motion and Deformable Objects, Palma de Mallorca, Spain
- 2001 Keynote Speaker, International Conference in Central Europe on Computer Graphics, Visualization and Computer Vision, Plzen, Czech Republic
- 2000 National Science Foundation CAREER Award
- 1998 Schlumberger Technical Foundation Award, Houston, TX
- 1991 Gerondelis Foundation Fellowship, Boston, MA
- 1989 Bodosakis Foundation Fellowship, Athens, Greece
- 1989 Highest honors for a top graduating student at the Dept. of Physics, University of Athens, Greece

4.4 Scholarly/Creative Work

Google Scholar: <https://scholar.google.com/citations?user=36SCzIOAAAAJ&hl=en>;

Citations: 12,031; **h-index:** 56; **i10-index:** 199 (As of October 29, 2022).

Please note that papers marked with a † (after the number) follow the authoring convention used in the Biomedical Sciences that the Principal Investigator/Senior Author is listed last, while papers marked with ‡ follow the authoring convention used in Mathematics that the authors are listed in alphabetical order.

4.4.1 Edited Books

1. M.G. Davies, I.A. Kakadiaris, W.E. Kline, and A.B. Lumsden, Eds., *Pumps and Pipes: Proceedings of the Annual Conference*, Houston, TX, United States, 2010.

4.4.2 Book Chapters

- 17.† E.G. Mendizabal-Ruiz and I.A. Kakadiaris, "Differential Imaging for the Detection of Extra-Luminal Blood Perfusion Due to Vasa Vasorum," in *Vascular and Intravascular Imaging Trends, Analysis, and Challenges*, P. Radeva and J.S. Suri, Eds. IOP Publishing Ltd, 2019.
- 16.† Y. Wu, S.K. Shah, and I.A. Kakadiaris, "Tackling the optimization and precision weakness of deep cascaded regression for facial key-point localization," in *Deep Learning in Biometrics*, M. Vatsa, R. Singh, and A. Majumdar, Eds. CRC Press, 2018.
- 15.† P. Moutafis and I.A. Kakadiaris, "Exploiting score distributions for biometric applications," in *Face Recognition Across the Imaging Spectrum*, T. Bourlai, Ed. Springer, 2016, pp. 333–353.
- 14.† D. Chu, S.K. Shah, and I.A. Kakadiaris, "3D face recognition for partial data using semi-coupled dictionary learning," in *Face Recognition in Adverse Conditions*, M.D. Marsico, M. Nappi, and M. Tistarelli, Eds., 2014, pp. 70 – 97.
13. P. Hernandez-Herrera, D. Jimenez, I.A. Kakadiaris, A. Koutsogiannis, D. Labate, F. Laezza, and M. Papadakis, "A harmonic analysis view on neuroscience imaging," in *Excursions in Harmonic Analysis*, T. Andrews, R.V. Balan, J.J. Benedetto, W. Czaja, and K. Okoudjou, Eds., 2012, vol. 2, pp. 423 – 450.
12. I.A. Kakadiaris and E.G. Mendizabal-Ruiz, "Cardiovascular informatics: A perspective on promises and challenges of IVUS data analysis," in *Optimization & Data Analysis in Biomedical Informatics*, T.F. Coleman, P.M. Pardalos, and P. Xanthopoulos, Eds. American Math Society, 2012, vol. 63, no. 15, pp. 2207–2213.
11. I.A. Kakadiaris, G. Passalis, G. Toderici, E. Efraty, P. Perakis, D. Chu, S.K. Shah, and T. Theoharis, "Face recognition using 3D images," in *Handbook of Face Recognition*, S.Z. Li and A.K. Jain, Eds. Cambridge University Press, 2011, pp. 429 – 459.

10. I.A. Kakadiaris and S.K. Shah, “Biomedical computing in complex advanced systems,” in *Pumps and Pipes: Proceedings of the Annual Conference*, M.G. Davies, A.B. Lumsden, W.E. Kline, and I.A. Kakadiaris, Eds. Springer, 2010, pp. 177 – 190.
- 9.† G. Toderici, G. Passalis, T. Theoharis, and I.A. Kakadiaris, “Bidirectional relighting for 3D-aided 2D face recognition,” in *Multibiometrics for Human Identification*, B. Bhanu and V. Govindaraju, Eds. Cambridge University Press, 2010, pp. 258 – 274.
8. I.A. Kakadiaris, M. Vavuranakis, S.M. O’Malley, R. Metcalfe, C. Hartley, E. Falk, and M. Naghavi, “Vasa vasorum imaging: A new window to the detection of vulnerable atherosclerotic plaques,” in *Asymptomatic Atherosclerosis: Pathophysiology, Detection and Treatment*, M.N. Naghavi, Ed. Humana Press, 2010, pp. 507 – 516.
7. D. Dey, I.A. Kakadiaris, A. Wolak, K. Nasir, and D.S. Berman, “Comprehensive non contrast CT imaging of the vulnerable patient,” in *Asymptomatic Atherosclerosis: Pathophysiology, Detection and Treatment*, M.N. Naghavi, D. Berman, M. Budoff, E. Falk, Z. Fayad, H. Hecht, K. Nasir, and P.K. Shah, Eds. Humana Press, 2010, pp. 375 – 391.
6. I.A. Kakadiaris, U. Kurkure, A. Bandekar, S.M. O’Malley, and M. Naghavi, “Cardiovascular informatics,” in *Handbook of Biomedical Imaging*, N. Paragios, N. Ayache, and J. Duncan, Eds. Springer, 2014, vol. 7, pp. 1 – 12.
5. I.A. Kakadiaris, G. Passalis, G. Toderici, P. Perakis, and T. Theoharis, “Face Recognition, 3D-based,” in *Encyclopedia of Biometrics*, S. Z. Li and A. Jain, Eds. Springer, 2009, pp. 329 – 338.
4. I.A. Kakadiaris, A. Santamaria-Pang, C. Colbert, and P. Saggau, “Automatic 3-D morphological reconstruction of neuron cells from multiphoton images,” in *Microscopic Image Analysis for Life Science Applications*, J. Rittscher, R. Machiraju, and S.T.C. Wong, Eds. Artech House, 2008, pp. 389 – 399.
3. I.A. Kakadiaris, G. Passalis, G. Toderici, N. Murtuza, and T. Theoharis, “Quo Vadis, 3D face and ear recognition?” in *Face Biometrics for Personal Identification*, R.I. Hammoud, B. Abidi, and M. Abidi, Eds. Springer, 2007, pp. 139 – 164.
2. I.A. Kakadiaris and C. Barron, “Model-based human motion capture,” in *Handbook of Mathematical Models in Computer Vision*, N. Paragios, Y. Chen, and O. Faugeras, Eds. Springer, 2006, pp. 325 – 341.
1. I.A. Kakadiaris, “Motion-based part segmentation and tracking,” in *Physics-Based Deformable Models: Applications to Computer Vision, Graphics and Medical Imaging*, D. Metaxas, Ed. Springer, Nov. 1997, pp. 149 – 189.

4.4.3 Refereed Publications in Archival Journals

- 121.† A. Bikaki, M. Machiorlatti, L. Clark, C. Robledo, and I.A. Kakadiaris, “Factors Contributing to SARS-CoV-2 Vaccine Hesitancy of Hispanic Population in Rio Grande Valley,” *Vaccines*, vol. 10, p. 1282, 2022.
120. Z. Yang, C. Silcox, S. Rose, D. Rehkopf, R. Phillips, L. Peterson, M. Marino, J. Maier, S. Lin, W. Liaw, I.A. Kakadiaris, J. Heintzman, I. Chu, and A. Bazemore, “Advancing primary care with Artificial Intelligence and Machine Learning,” *Healthcare*, vol. 10(1):100594, 2022.
119. T. Huang, Y. Chu, S. Shams, Y. Kim, A. Annapragada, D. Subramanian, I.A. Kakadiaris, A. Gottlieb, and X. Jiang, “Population stratification enables modeling effects of reopening policies on mortality and hospitalization rates,” *Journal of Biomedical Informatics*, vol. 119, p. 103818, 2021.
118. W. Liaw, I.A. Kakadiaris, and Z. Yang, “Is Artificial Intelligence the Key to Reclaiming Relationships in Primary Care?” *American Family Physician*, vol. 104, no. 6, pp. 1–2, 2021.
- 117.† M. Vrigkas, E. Kazakos, C. Nikou, and I.A. Kakadiaris, “Human activity recognition using robust adaptive privileged probabilistic learning,” *IEEE Transactions on Pattern Analysis and Machine Intelligence*, vol. 24, no. 3, p. 915–932.
116. N. Ratha, R. Singh, V. Štruc, I.A. Kakadiaris, J. Phillips, and M. Vatsa, “TBIOM Special Issue on Best Reviewed Papers From IJCB 2020—Editorial,” *IEEE Transactions on Biometrics, Behavior, and Identity Science*, vol. 3, pp. 441–442, 2021.
- 115.† L. Shi, X. Xu, and I.A. Kakadiaris, “Detecting multi-scale faces using attention-based feature fusion and smoothed context enhancement,” *IEEE Transactions on Biometrics, Behavior, and Identity Science*, vol. 2, no. 3, pp. 235–244, 2020.
114. W. Liaw and I.A. Kakadiaris, “Primary care artificial intelligence: A branch hiding in plain sight,” *Annals of Family Medicine*, vol. 18, no. 3, p. 194, 2020.

113. W. Liaw and I.A. Kakadiaris, "Artificial intelligence and Family Medicine: Better Together," *Family Medicine*, vol. 52, pp. 8–10, 2020.
112. S. Upadhyay, L. Vergara, P. Shah, J.-A. Gustafsson, I.A. Kakadiaris, and M. Bondesson, "A layered mounting method for extended time-lapse confocal microscopy of whole zebrafish embryos," *Journal of Visualized Experiments*, 2020.
- 111.† L. Shi, X. Xu, and I.A. Kakadiaris, "SSFD+: A Robust Two-Stage Face Detector," *IEEE Transactions on Biometrics, Behavior, and Identity Science*, vol. 1, pp. 181–191, 2019.
- 110.† Y. Wu and I.A. Kakadiaris, "3-D face alignment using a convolutional point-set representation," *IEEE Trans. Biometrics, Behavior, and Identity Science*, vol. 1, pp. 264–277, 2019.
109. R.J. Paxton, L. Zhang, C. Wei, D. Price, F. Zhang, K.S. Courneya, and I.A. Kakadiaris, "An exploratory decision tree analysis to predict physical activity compliance rates in breast cancer survivors," *Ethnicity & Health*, vol. 24, pp. 754–766, 2019.
- 108.† W. Gao, X. Zhao, Z. Gao, J. Zou, P. Dou, and I.A. Kakadiaris, "3D face reconstruction from volumes of videos using a MapReduce framework," *IEEE Access*, vol. 7, pp. 165 559–165 570, 2019.
- 107.† L. Zhang, P. Dou, and I.A. Kakadiaris, "Patch-based face recognition using a hierarchical multi-label matcher," *Image and Vision Computing*, vol. 73(C), pp. 28 – 39, 2018.
- 106.† N. Sarafianos, T. Giannakopoulos, C. Nikou, and I.A. Kakadiaris, "Curriculum learning of visual attribute clusters for multi-task classification," *Pattern Recognition*, vol. 80, pp. 94–108, 2018.
105. I.A. Kakadiaris, M. Vrigkas, A.A. Yen, T. Kuznetsova, M. Budoff, and M. Naghavi, "Machine learning outperforms ACC/AHA CVD risk calculator in MESA," *Journal of the American Heart Association*, vol. 7, no. 22, p. e009476, November 2018.
- 104.† P. Dou, Y. Wu, S.K. Shah, and I.A. Kakadiaris, "Monocular 3D facial shape reconstruction from a single 2D image with coupled-dictionary learning and sparse coding," *Pattern Recognition*, vol. 81, pp. 515–527, 2018.
- 103.† P. Dou and I.A. Kakadiaris, "Multi-view 3D face reconstruction with deep recurrent neural networks," *Image and Vision Computing*, vol. 80, pp. 80 – 91, 2018.
102. I. A. Kakadiaris, M. Vrigkas, A. Yen, T. Kuznetsova, M. Budoff, and M. Naghavi, "Abstract 17154: Machine learning outperforms ACC/AHA CVD risk calculator in MESA offering new opportunities for Short-Term risk prediction and early detection of the vulnerable patient," *Circulation*, vol. 138, pp. A17 154–A17 154, 2018.
101. I.A. Kakadiaris, M. Vrigkas, M. Budoff, A. Yen, and M. Naghavi, "Machine learning outperformed ACC/AHA pooled cohort equations risk calculator for detection of high-risk asymptomatic individuals and recommending treatment for prevention of cardiovascular events in the Multi-Ethnic Study of Atherosclerosis (MESA)," *Circulation*, vol. 136, no. Supp. 1, pp. A23 075–A23 075, 2017.
- 100.† M. Leng, P. Moutafis, and I.A. Kakadiaris, "Joint prototype and metric learning for image set classification application to video face recognition," *Image and Vision Computing: Special Issue on the Best of Biometrics*, vol. 58, pp. 204–213, 2017.
- 99.† Y. Wu, S.K. Shah, and I.A. Kakadiaris, "Annotated face model-based alignment: A robust landmark-free pose estimation approach for 3D model registration," *Machine Vision and Applications*, vol. 29, no. 3, pp. 375–391, 2017.
- 98.† Y. Wu, S.K. Shah, and I.A. Kakadiaris, "GoDP: Globally optimized dual Pathway deep network architecture for facial landmark localization in-the-wild," *Image and Vision Computing*, vol. 73, no. 5, pp. 1–16, 2017.
- 97.† L.F. Zhang, S.K. Shah, and I.A. Kakadiaris, "Hierarchical multi-label classification using fully associative ensemble learning," *Pattern Recognition*, vol. 70, pp. 89–103, 2017.
- 96.† M. Vrigkas, C. Nikou, and I.A. Kakadiaris, "Identifying human behaviors using synchronized audio-visual cues," *IEEE Transactions on Affective Computing*, vol. 8, no. 1, pp. 54–66, January 2017.
95. I.A. Kakadiaris, G. Toderici, G. Evangelopoulos, G. Passalis, D. Chu, X. Zhao, S.K. Shah, and T. Theoharis, "3D-2D face recognition with pose and illumination normalization," *Computer Vision and Image Understanding*, vol. 154, no. C, pp. 137–151, January 2017.
- 94.† N. Sarafianos, B. Boteanu, B. Ionescu, and I.A. Kakadiaris, "3D human pose estimation: A review of the literature and analysis of covariates," *Computer Vision and Image Understanding*, vol. 152, pp. 1–20, 2016.
- 93.† P. Moutafis, M. Leng, and I.A. Kakadiaris, "An overview and empirical comparison of distance metric learning methods," *IEEE Transactions on Cybernetics*, vol. PP, no. 4, pp. 1–14, 2016.
92. B.T. Endres, E. Bassères, A. Memariani, L. Chang, M.J. Alam, R.J. Vickers, I.A. Kakadiaris, and K.W. Garey,

- "A novel method for imaging the pharmacological effects of antibiotic treatment on *Clostridium difficile*," *Anaerobe*, vol. 40, pp. 10 – 14, 2016.
91. X. Zhao, J. Zou, H. Li, E. Dellandrea, I.A. Kakadiaris, and L. Chen, "Automatic 2.5-D facial landmarking and emotion annotation for social interaction assistance," *IEEE Transactions on Cybernetics*, vol. 46, no. 9, pp. 2042–55, Sep. 2016.
 - 90.† E.G. Mendizabal-Ruiz and I.A. Kakadiaris, "A physics-based intravascular ultrasound image reconstruction method for the lumen segmentation," *Computers in Biology and Medicine*, vol. 75, pp. 19–29, August 2016.
 - 89.† P. Hernandez-Herrera, M. Papadakis, and I.A. Kakadiaris, "Multi-scale segmentation of neurons based on one-class classification," *Journal of Neuroscience Methods*, vol. 266, pp. 94 – 106, June 2016.
 - 88.† A. Santamaria-Pang, M. Papadakis, P. Hernandez-Herrera, P. Saggau, and I.A. Kakadiaris, "Automatic morphological reconstruction of neurons from multiphoton and confocal microscopy images using 3D tubular models," *Neuroinformatics*, vol. 13, no. 3, pp. 297–370, Dec 2015.
 - 87.† P. Moutafis and I.A. Kakadiaris, "Can we do better in unimodal biometric systems? A rank-based score normalization framework," *IEEE Transactions on Cybernetics*, vol. 45, no. 12, pp. 2654–2667, Dec 2015.
 86. M. Vrigkas, C. Nikou, and I.A. Kakadiaris, "A review of human activity recognition methods," *Frontiers in Robotics and Artificial Intelligence*, vol. 2, no. 28, pp. 1–26, November 2015.
 - 85.† B.A. Almogahed and I.A. Kakadiaris, "NEATER: Filtering of over-sampled data using non-cooperative game theory," *Soft Computing*, vol. 19, no. 11, pp. 3301–3322, Aug 2015.
 84. S.M. Kalasekar, E. Zacharia, N. Kessler, N.A. Ducharme, J.A. Gustafsson, I.A. Kakadiaris, and M. Bondesson, "Identification of environmental chemicals that induce yolk malabsorption in zebrafish using automated image segmentation," *Reproductive Toxicology*, vol. 55, pp. 20–29, Aug 2015.
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4.4.6 Refereed Abstracts

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4.4.7 Editorials

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1. I.A. Kakadiaris, R. Sharma, and M. Yeasin, "Guest editorial introduction to the special issue on human modeling, analysis, and synthesis," *Machine Vision and Applications - Special Issue on Human Modeling, Analysis and Synthesis*, vol. 14, no. 4, pp. 197-198, Sep. 2003.

4.4.8 Edited Proceedings

3. M. Sonka, I.A. Kakadiaris, and J. Kubic, Eds., *Proc. Computer Vision and Mathematical Methods in Medical and Biomedical Image Analysis*, Prague, Czech Republic, May 2004.
2. H. Asada, I.A. Kakadiaris, C. Tomasi, and M. Zefran, Eds., *Proc. Robotics and Computer Vision Workshop*, Las Vegas, NV, United States, 2003.
1. I.A. Kakadiaris and R. Sharma, Eds., *Proc. IEEE Human Motion Analysis and Synthesis Workshop*, Hilton Head Island, SC, United States, June 2000.

4.4.9 Videos

2. I.A. Kakadiaris, G. Passalis, T. Theoharis, G. Toderici, and N. Murtuza, “8D-THERMO CAM: Combination of geometry with physiological information for face recognition,” in *Video Proc. Computer Vision and Pattern Recognition Conference*, San Diego, CA, United States, Jun. 20 - 25 2005.
1. V. Krovi, I. Haulin, J.M. Vezien, I.A. Kakadiaris, R. Pito, R. Enciso, V. Kumar, G.K. Ananthasuresh, and R. Bajcsy, “Design and virtual prototyping of a rehabilitation devices,” in *Video Proc. International Conference on Robotics and Automation*, Leuven, Belgium, May 16 - 21 1998.

4.5 External Research Grants (Total: \$51,663,135.10)

As PI: \$34,452,008.38; as Co-PI: \$14,656,341.72; as Senior Personnel: \$2,554,785

78. *Primary Care Forecast: Using Social Risk Factors and Actionable, Explainable Artificial Intelligence to Prevent the Diabetes Complications*; Co-PI: I.A. Kakadiaris (Co-PI: W. Liaw); American Board of Family Medicine Foundation; \$499,998; September 1, 2022 – August 31, 2026.
77. *Collaborative, Open-Source Data, and Modeling Platform*; PI of Subcontract: I.A. Kakadiaris (PI: J. Krozel); US Army via The Innovation Laboratory, Inc.; \$47,416; May 15, 2022 - November 14, 2022.
76. *Increasing COVID-19 Vaccine Uptake Among High-Risk Hispanic Communities (CEAL 2.0)*; PI of subcontract: I.A. Kakadiaris (PI: Luis R. Torres-Hostos); National Institutes of Health via University of North Texas Health Science Center; \$85,000; April 2022 - March 2023.
75. *VIDORA: Visual Dossier for Recognizing and Identifying Humans at Altitude AND Range*, PI: I.A. Kakadiaris; Intelligence Advanced Research Projects; \$13,859,057; November 2021 - November 2025.
74. *SCC-CIVIC-FA Track B: Artificial-Intelligence-Based Decision Support for Equitable and Resilient Food Distribution During Pandemics and Extreme Weather Events*; PI: I.A. Kakadiaris; National Science Foundation; \$1,199,994.00; October 2021 - September 2023.
73. *Community Responsive Algorithms for Social Accountability (CRASA)*; PI: R. Kennedy (Political Science); Co-PI: I.A. Kakadiaris; National Science Foundation; \$749,857; October 2021 - August 2024.
72. *AIM-AHEAD: CC Administrative Core*; MPI: B. Beech (Tilman J. Fertitta Family College of Medicine, UH); M. Bruce (Tilman J. Fertitta Family College of Medicine, UH); Co-I: I.A. Kakadiaris; Senior Personnel: S. Gronseth (College of Education, UH); University of North Texas Health Science Center at Fort Worth; \$1,503,112; September 2021 - September 2023.
71. *IRES Track I: US-Mexico Collaboration on Multimodal Detection of Objectionable Content in Online Videos in Spanish and English*; PI: T. Solorio (CS); Co-PI: I.A. Kakadiaris, S. Gronseth (COE); National Science Foundation; \$299,880; September 2021 - August 2024.
70. *PRIDE Admin Supplement*; PI: I.A. Kakadiaris; National Institutes of Health; \$82,221; September 2021 - January 2023.
69. *Utilization of Crowd Data and Predictive Algorithms for Improved Transit Service and Experience*; PI: A. Laszka (CS); Co-PI: I.A. Kakadiaris; U.S. Department of Transportation (via Nashville Metropolitan Transit Authority); \$121,796; June 2021 - July 2022.
68. *Increasing COVID-19 Vaccine Uptake Among High-Risk Hispanic Communities*; PI of Subcontract: I.A. Kakadiaris (PI: C. Robledo); National Institutes of Health; \$94,994; March 2021 - February 2023.
67. *SCC-CIVIC-PG Track B: Equitable Food-Security: Disaster-resilient Supply Chains for Pandemic and Extreme Weather Events*; PI: I.A. Kakadiaris; Co-PIs: A. Laszka (CS); National Science Foundation; \$49,994; January 2021 - June 2022.
66. *AICORE-Kids: Artificial Intelligence COVID-19 Risk Assessment for Kids*; PI: A. Annapragada (BCM); Co-I: I.A. Kakadiaris; Baylor College of Medicine/NIH; \$899,106; January 2021 - December 2024.
65. *D-ISN: TRACK 2: Collaborative Research: Financial Network Disruptions in Illicit and Counterfeit Medicines (FIND-M)*; PI: I.A. Kakadiaris; National Science Foundation; \$56,000; September 2020 - August 2022.
64. *Supporting Student Development Activities at the International Joint Conference on Biometrics (IJCB 2020)*; PI: I.A. Kakadiaris; National Science Foundation; \$17,498; August 2020 - January 2021.
63. *Workshop on desiderata for a multimodal dataset for objectionable content detection*; PI: T. Solorio (CS); Co-PI: I.A. Kakadiaris; National Science Foundation; \$43,959; July 2020 - June 2022.
62. *CBP I94/Mobile Exit App Technical Vulnerability Evaluation and Hackathon*; PI: I.A. Kakadiaris; DHS via BTI Institute; \$217,410; June 2020 - May 2021.
61. *IIS REU Site: Undergraduate Research Experience in Frontiers in Data-Driven Computing*; PI: E. Leiss (CS);

- Co-PI: S. Huang (CS); Senior Personnel: I.A. Kakadiaris; R. Verma; I. Pavlidis; National Science Foundation; \$401,011; February 2020 - January 2023.
60. *SOCOM Long Distance Face Recognition (LDFR)*; PI: I.A. Kakadiaris; U.S. Special Operations Command; \$66,669; December 2018 - October 2019.
 59. *EDGE: The "Eye in the Woods" Image-Based Human Detection and Recognition System*; PI: I.A. Kakadiaris; DHS via BTI Institute; \$349,995; July 2018 - June 2020.
 58. *Mobile Exit Hackathon*; PI: I.A. Kakadiaris; DHS via BTI Institute; \$158,240.35; June 2018 - Nov 2018.
 57. *REU Site: Research Experience for Undergraduates in Data-Centric Computing*; PI: S. Huang (CS); Co-PI: E. Leiss (CS); Senior Personnel: I.A. Kakadiaris; National Science Foundation; \$360,000; February 2017 - January 2021.
 56. *Collecting Facial Images from Multiples in Texas*; PI: I.A. Kakadiaris; West Virginia University; \$202,997; February 2017 - August 2017.
 55. *How Does Fidaxomicin Inhibit Spore and Toxin Production; a Mechanistic Study*; PI: Kevin W. Garey; Co-PI: I.A. Kakadiaris; Merck and Co. Inc.; \$126,414; December 2015 - January 2021.
 54. *I-Corps: Exploiting Matching Score Distributions to Improve Biometric Recognition*; PI: I.A. Kakadiaris; National Science Foundation; \$49,975; October 2015 - September 2016.
 53. *International Workshop on Large-scale Biomedical Semantic Indexing and Question Answering (BioASQ)*; PI: I.A. Kakadiaris; National Library of Medicine; \$57,615; August 2015 - August 2018.
 52. *Borders, Trade and Immigration Institute: A DHS Center of Excellence*; PI: I.A. Kakadiaris; Department of Homeland Security; \$10,200,000; May 2015 - June 2018.
 - *Security Technologies Kitchen*; PI: S.K. Shah, Co-PI: I.A. Kakadiaris; \$260,587; DHS via BTI Institute; July 2016 - June 2018.
 - *Image and Video Person Identification in an Operational Environment: Phase I*; DHS via BTI Institute; PI: I.A. Kakadiaris; \$488,629; January 2015 - December 2017.
 51. *4D Vision: Computer Vision Using RGB-D Images and their Sequences*; PI: I.A. Kakadiaris; French Partner University Fund - Subcontract to Stony Brook University; \$28,599; January 2016 - September 2020.
 50. *REU Site: Undergraduate Research Experience in Computational Science*; PI: S. Huang; Senior Personnel: I.A. Kakadiaris; National Science Foundation; \$360,001; May 2014 - April 2018.
 49. *Hazards SEES Type 1: Real-Time Geospatial Infrastructure Modeling for Disaster Response and Rapid Recovery*; PI: C. Glennie (Civil & Environmental Engineering); Co-PIs: I.A. Kakadiaris, S. Shah (CS), C. Vipulanandan (Civil & Environmental Engineering); National Science Foundation; \$299,273; September 2013 - August 2015.
 48. *Sparse 3D-Data Representations from Compactly Supported Atoms for Rigid Motion Invariant Classification with Applications to Neuroscience Imaging*; PI: E. Papadakis (Mathematics); Co-PIs: I.A. Kakadiaris, D. Labate (Mathematics); National Science Foundation; \$299,993; August 2013 - July 2016.
 47. *Face Recognition for Unconstrained Maritime Applications*; PI: I.A. Kakadiaris; Co-PIs: E. Papadakis and S. Shah; US Army Research Labs; \$585,399; June 2013- May 2016.
 46. *MRI: Acquisition of a Laser Scanning Confocal Microscope Facility for Interdisciplinary Live Cell Imaging*; PI: G. Roman (Biology); Co-PIs: S. Dryer (Biology), I.A. Kakadiaris, J. Ziburkus (Biology), S. Khurana (Biology); National Science Foundation; \$565,372; August 2012 - July 2015.
 45. *Detection of Obesogens and Diabetogens by Zebrafish Screening Models*; PI: J. Gustafsson (CNRCS); Co-PIs: M. Bondesson (CNRCS); Senior Personnel: I.A. Kakadiaris; National Institute of Environmental Health Sciences; \$375,209; May 2012 - April 2014.
 44. *Towards Automating Improvements in Sub-Salt Interpretation*; PI: I.A. Kakadiaris; Co-PI: S.K. Shah; BP America; \$427,177; June 2011 - October 2013.
 43. *REU Site: Undergraduate Research Experience in Computational Science*; PI: S. Huang; Co-PI: E.L. Leiss; Senior Personnel: I.A. Kakadiaris, I. Pavlidis, R. Verma, and D. Liberman (Education); National Science Foundation; \$350,000; March 2011 - February 2014.
 42. *Learning Models for Predictive Behavioural Intent and Activity Analysis in Wide Area Video Surveillance*; PI: S. Shah; Co-PI: I.A. Kakadiaris; National Institute of Justice; \$719,034; February 2010 - October 2015.
 41. *RECOLLECT: Robust and Accurate Face Recognition in Real-Life Conditions*; PI: I.A. Kakadiaris; Co-PIs: E. Papadakis, S. Shah, D. Terzopoulos (Computer Science, UCLA); US Army Research Labs; \$1,780,198; December 2009 - December 2011.
 40. *CPS:Medium:Image-Guided Robot-Assisted Medical Interventions*; PI: N.V. Tsekos; Co-PI: I.A. Kakadiaris;

- National Science Foundation; \$1,557,564.720; September 2009 - June 2016.
39. *Image-Guided Robot-Assisted Medical Interventions*; PI: N. Tsekos (Computer Science); Co-PIs: Z. Deng (Computer Science), K. Grigoriadis (Mechanical Engineering), I.A. Kakadiaris, J. Mohammadpour (Mechanical Engineering); National Science Foundation; \$1,557,565; September 2009 - August 2015.
 38. *Rigid Motion Steerability for Stochastic Models of 3D-textures Applied to Soft Tissue Segmentation/Identification in 3D-biomedical Images*; PI: E. Papadakis; Co-PIs: R. Azencott (Mathematics), I.A. Kakadiaris; National Science Foundation; \$490,712; September 2009 - July 2012.
 37. *3D-Echocardiography Analysis for Mitral Valve Modeling*; PI: R. Azencott; Co-PI: I.A. Kakadiaris; Methodist Hospital Research Institute; \$97,000; June 2009 - May 2010.
 36. *An Interactive Volumetric Atlas of the Mouse Brain*; PI: James Carson (PNNL); Co-PIs: I.A. Kakadiaris and T. Ju (Computer Science, WUSTL); National Institutes of Health; \$124,807; May 2009 - November 2011.
 35. *Diagnostic Nodal Staging with Nuclear and NIR Molecular Optical Imaging*; PI: E. Sevick-Muraca (UTHSC), Co-PI: I.A. Kakadiaris; National Institutes of Health, subcontract from University of Texas Health Science Center (UTHSC); \$101,672 (UH subcontract); February 2009 - February 2010.
 34. *Face Recognition for Physical and Logical Access Control: Demonstration & Assessment*; PI: I.A. Kakadiaris, Co-PI: S. Shah; US Army Research Labs; \$614,187; January 2009 - July 2010.
 33. *Functional lymph Angiography with NIR Imaging*; PI: E. Sevick (UT Medical School); Co-I (PI of the UH subaward): I.A. Kakadiaris; National Institute of Health; \$37,500; September 2008 - February 2010.
 32. *Video-Based 3D/2D-Profile Face Recognition Demo System*; PI: I.A. Kakadiaris; Unisys West Coast Research Center, Inc.; \$150,000; September 2008 - September 2009.
 31. *Building Geometric Databases for Anatomy-Based Spatial Queries*; PI: T. Ju, Co-PIs: I.A. Kakadiaris and J. Carson; National Science Foundation, subcontract from Washington University; \$780,976; July 2008 - June 2011.
 30. *Automatic Quantitative CT Imaging of Pericardial Fat: A Novel Ischemia Predictor*; PI: D. Dey (Cedars-Sinai Medical Center), Co-PI: I.A. Kakadiaris; National Institutes of Health; \$435,100; April 2008 - March 2011.
 29. *Facial Expression Analysis Using 6D Data: Application to Autism*; PI: I.A. Kakadiaris, Co-PI: K. Loveland (Psychiatry & Behavioral Sciences, University of Texas Health Science Center); Texas Higher Education Coordinating Board - ARP; \$149,751; May 2008 - December 2010.
 28. *Video-Based Surveillance in Distributed Environments*; PI: I.A. Kakadiaris, Co-PIs: S. Shah and O. Jejelowo (Biology, Texas Southern University); Texas Higher Education Coordinating Board - ARP; \$149,944; May 2008 - December 2010.
 27. *Automatic Intracranial Aneurysm Segmentation and Shape Quantification from Three-Dimensional Angiography Images*; PI: I.A. Kakadiaris; Siemens Medical Solutions USA, Inc.; \$94,058; January 2008 - December 2009.
 26. *REU Site: Undergraduate Research Experience in Computational Science and Cybersecurity*; PI: S. Huang, Co-PI: E. Leiss; Senior Personnel: I.A. Kakadiaris, I. Pavlidis, R. Verma; National Science Foundation; \$310,001; March 2008 - February 2011.
 25. *Video-Based 3D/2D-Profile Face Recognition: Drive-By ID*; PI: I.A. Kakadiaris; Unisys West Coast Research Center, Inc.; \$150,000; February 2008 - September 2008.
 24. *3D Face Recognition*; PI: I.A. Kakadiaris; Digital Signal Corporation, Inc.; \$25,000; January 2008 - March 2008.
 23. *3D/2D-Profile Face Recognition: Drive-By ID*; PI: I.A. Kakadiaris; Unisys West Coast Research Center, Inc.; \$100,000; May 2007 - April 2008.
 22. *Segmentation of 3D Tubular Structures*; PI: I.A. Kakadiaris; National Science Foundation; \$75,000; August 2006 - July 2008.
 21. *Security Informatics*; PI: I.A. Kakadiaris; Vision & Graphics Computing, Inc.; \$59,000; July 2006 - August 2007.
 20. *CRCNS: Computational and Optical Studies of Neural Input / Output Relationship*; PI: P. Saggau (Neuroscience, Baylor College of Medicine), Co-PIs: C. Colbert (Biology and Biochemistry, UH) and I.A. Kakadiaris; National Institutes of Health; \$1,117,759; September 2005 - August 2008.
 19. *MRI: Acquisition of a Hybrid System and Research Infrastructure for Large-Scale Integration of Biomedical Data*; PI: G. Zouridakis (CS), Co-PIs: M. Garbey (CS), I.A. Kakadiaris, I. Pavlidis and R. Vilalta (CS); National Science Foundation; \$900,000; August 2005 - July 2009.
 18. *REU Site: Undergraduate Research Experience in Computational Science and Cybersecurity*; PI: S. Huang, Co-

- PI: E. Leiss; Senior Personnel: I.A. Kakadiaris, I. Pavlidis, R. Verma; National Science Foundation; \$270,434; March 2005 - February 2008.
17. *SEI: Cardiovascular Informatics*; PI: I.A. Kakadiaris; National Science Foundation; \$566,350; October 2004 - September 2008.
 16. *Large-scale integration of different data modalities for computational medical sciences*; PI: Marc Garbey; Co-PIs: I.A. Kakadiaris, H.A. Malki (Engineering Technology), I. Pavlidis, G. Zouridakis; Microsoft Research; \$25,000; September 2004 - August 2005.
 15. *Collaborative Research: Physics-Based Modeling and Simulation for Post-Mastectomy Breast Reconstruction Surgery*; PIs: I.A. Kakadiaris and K. Ravi-Chandar (Mechanical Engineering); National Science Foundation; \$464,000; September 2004 - August 2007.
 14. *IIS-0335578 SGER: Cardiovascular Informatics*; PI: I.A. Kakadiaris; National Science Foundation; \$99,532; August 2003 - July 2004.
 13. *2003 NSF PI Workshop on Robotics and Computer Vision*; PI: I.A. Kakadiaris; National Science Foundation; \$109,820; July 2003 - June 2004.
 12. *Reconstruction and imaging of live neurons*; PI: P. Saggau (Neuroscience, Baylor College of Medicine), Co-PIs: I.A. Kakadiaris and C. Colbert; National Institutes of Health; \$1,487,831; September 2002 - August 2005.
 11. *A framework for the acquisition and deployment of digital imagery for computer-assisted evaluation of diabetic retinopathy*; PI: H. Li (Ophthalmology and Visual Sciences, UT Medical Branch), Co-PIs: I.A. Kakadiaris, N. Aoki (UT Health Science Center); Juvenile Diabetes Research Foundation; \$385,000; June 2002 - May 2004.
 10. *Performance Evaluation of the NDDS Real-Time Networking for Human Motion Tracking*; PI: I.A. Kakadiaris; Real Time Innovations Inc.; \$101,750 (Software Grant); January 2002 - December 2003.
 9. *Teacher Supplement: Motion Estimation and Control Algorithms for Robotically-Assisted Surgery*; PI: I.A. Kakadiaris; Texas Higher Education Coordinating Board; \$9,000; May 2001 - August 2001.
 8. *REU Supplement to CAREER: An Integrated Framework for Data-Driven Representations and Algorithms in Visual Computing*; PI: I.A. Kakadiaris; National Science Foundation CISE/HRA; \$5,000; April 2001 - March 2002.
 7. *CAREER: An Integrated Framework for Data-Adaptive Representations and Algorithms in Visual Computing*; PI: I.A. Kakadiaris; National Science Foundation CISE/HRA; \$329,749; April 2000 - March 2004.
 6. *Shape Modeling for Post-Mastectomy Breast Reconstructive Surgery*; PI: I.A. Kakadiaris; UT MD Anderson Cancer Center; \$10,000; March 2000 - February 2001.
 5. *Vision-Based Tracking of Vehicle Occupants*; PI: I.A. Kakadiaris; American Honda R&D, Inc.; \$50,000; March 2000 - February 2001.
 4. *Motion Estimation and Control Algorithms for Robotically-Assisted Surgery*; PI: I.A. Kakadiaris, Co-PI: K. Grigoriadis; Texas Higher Education Coordinating Board; \$192,102; January 2000 - May 2003.
 3. *Modeling, Analysis, and Visualization of Sequence Stratigraphy Derived Objects*; PI: I.A. Kakadiaris; Schlumberger Technical Foundation Award; \$35,000; September 1998 - August 1999.
 2. *Imaging and Visualization Equipment Grant*; PI: I.A. Kakadiaris; SGI Inc.; \$50,000 (Equipment Grant); January 1998 - December 1998.
 1. *CISE Research Instrumentation: Advanced Visualization Facility*; PI: B. Loftin, Co-PIs: I.A. Kakadiaris, R. Glowinski (Mathematics, UH); National Science Foundation, EIA; \$100,000 (\$50,000 award and \$50,000 UH matching - Equipment grant); January 1998 - December 1998.

4.6 Training Grants (Total: \$553,593)

7. *Sanat Upadhyay: Computational Cancer Biology Fellowship*; Keck Center, \$99,586, March 2015 - December 2016.
6. *Yifeng Jiang: NLM Training Fellowship in Biomedical Informatics*; Keck Center, \$54,955, January 2012 - December 2012.
5. *Eleni Zacharia: Computational Cancer Biology Fellowship*; Keck Center, \$99,586, February 2011 - January 2013.
4. *Gerd Brunner: Learning-Based Prediction of Cardiovascular Risk Using CT Data*; Biomedical Discovery Training Program of the W.M. Keck Center for Interdisciplinary Bioscience Training of the Gulf Coast Consortia; Postdoctoral Training Fellowship; \$94,848; June 2007 - May 2009.

3. *Sean O'Malley: Graduate Research Fellowship*; National Science Foundation, \$108,726, June 2004 - May 2007.
2. *Musodiq Bello: Hybrid Segmentation Framework for Tissue Images Containing Gene Expression Data*; W. M. Keck Center for Computational and Structural Biology, W. M. Keck Predoctoral Fellowship in Computational and Structural Biology; \$25,000; January 2003 - December 2004.
1. *C. Uehara: Online Morphological Reconstruction of Living Neurons*; Keck Center for Computational Biology, Post-Doctoral Keck Fellowship Program; \$70,592; July 2002 - June 2004.

4.7 Patents

21. 20,210,287,694: Systems for and Methods of Intelligent Acoustic Monitoring (with R. Wilson) (September 16, 2021)
20. 10,964,336: Systems for and Methods of Intelligent Acoustic Monitoring (with R. Wilson) (March 30, 2021)
19. 9,899,035: Systems for and Methods of Intelligent Acoustic Monitoring (w/ R. Wilson) (February 20, 2020)
18. 20190237094: Systems for and Methods of Intelligent Acoustic Monitoring (with R. Wilson) (August 1, 2019)
17. 10,283,141: Systems for and Methods of Intelligent Acoustic Monitoring (with R. Wilson) (May 7, 2019)
16. 10,235,344: Rank-based Score Normalization Framework and Methods for Implementing Same (with P. Moutafis) (March 19, 2019)
15. 9,965,592: Methods of Computing Pericardial and Abdominal Fat and Methods for Motion Compensation (with M. Naghavi) (May 8, 2018)
14. 20,180,114,538: Systems for and Methods of Intelligent Acoustic Monitoring (with R. Wilson) (April 26, 2018)
13. 20,170,337,343: Methods of Computing Pericardial and Abdominal Fat and Methods for Motion Compensation (with M. Naghavi) (November 23, 2017)
12. 20,170,125,034: Systems for and Methods of Intelligent Acoustic Monitoring (with R. Wilson) (May 4, 2017)
11. 8,090,160: Automated method for human face modeling and relighting with application to face recognition (with G. Toderici, T. Theoharis, and G. Passalis) (January 3, 2012)
10. 20,100,278,405: Scoring Method for Imaging-Based Detection Of Vulnerable Patients (with M. Naghavi) (November 4, 2010)
9. 7,689,056: Frame Resolution Analysis in Any Number of Dimensions with Minimally Supported (In the Frequency Domain) Radial Function (with E. Papadakis, D.K. Kouri, D.K. Hoffman, and G. Gogoshin) (March 30, 2010)
8. 20090310828: Automated Method for Human Face Modeling and Relighting with Application to Face Recognition (with G. Toderici, T. Theoharis, and G. Passalis) (December 17, 2009)
7. 7,512,255: Multi-modal face recognition (with T. Theoharis) (March 31, 2009)
6. 20,080,281,205: Methods And Apparatuses For Medical Imaging (with M. Naghavi) (November 13, 2008)
5. 7,272,265: Methods for Performing DAF Data Filtering and Padding (with D.K. Kouri, D.K. Hoffman, M. Arnold, Z. Shi, D. Zhang, G. Gunaratne, H. Wang, G.W. Wei, and Z.B. Xi'an) (September 18, 2007)
4. 20,050,084,140: Multi-modal Face Recognition (with T. Theoharis) (April 21, 2005)
3. 20,050,027,770: Frame Resolution Analysis in Any Number of Dimensions with Minimally Supported (In the Frequency Domain) Radial Function (with E. Papadakis, D.K. Kouri, D.K. Hoffman, and G. Gogoshin) (February 3, 2005)
2. 6,847,737: Methods for Performing DAF Data Filtering and Padding (with D.K. Kouri, D.K. Hoffman, Z. Shi, D. Zhang, G. Gunaratne, H. Wang, G.W. Wei, and Z. Bao) (January 25, 2005)
1. 20,040,071,363: Methods for Performing DAF Data Filtering and Padding (with D.K. Kouri, D.K. Hoffman, Z. Shi, D. Zhang, G. Gunaratne, M. Arnold, H. Wang, G.W. Wei, and Z. Bao) (April 5, 2004)

4.8 Licensing

The patent "Methods and apparatuses for medical imaging." was licensed by Boston Scientific (2007).

5 TEACHING AND STUDENT LEARNING

5.1 Course and Program Development and/or Revision

Semester	Year	Course Number and Title	Comments
Fall	2018	COSC 7373 Advanced Computer Vision: Identity	New Content
Spring	2015	COSC 6373 Computer Vision	
Fall	2014	COSC 7378 Advanced Image Computing: Biometrics	New Content
Spring	2014	COSC 6373 Computer Vision	New Content
Fall	2013	COSC 4370 Interactive Computer Graphics	
Spring	2013	COSC 4397 Visual Computing	New Course
Fall	2012	COSC 4370 Interactive Computer Graphics	New Content
Fall	2011	COSC 7378 Advanced Image Computing (AIC): Algorithmic Game Theory	New Content
Fall	2010	COSC 7397 AIC	New Course
Spring	2010	COSC 6391 Biomedical Image Analysis	
Fall	2008	COSC 7373 Advanced Computer Vision (ACV): Biomedical Computing	
Spring	2008	COSC 6391 Biomedical Image Analysis	
Fall	2007	COSC 6397 Digital Image Processing	New Content
Spring	2007	COSC 6397 Advanced Biomedical Image Computing	New Course
Fall	2006	COSC 6391 Biomedical Image Analysis	
Spring	2006	COSC 7373 ACV: Biomedical Computing	New Content
Fall	2005	COSC 6391 Biomedical Image Analysis	
Spring	2005	COSC 7373 ACV: Bioimaging	New Content
Fall	2004	COSC 6397 Biomedical Image Analysis	New Course
Spring	2004	COSC 6372 Computer Graphics	
Fall	2003	COSC 6373 Computer Vision	
Spring	2003	COSC 7373 ACV: Wavelets	
Fall	2002	COSC 6373 Computer Vision	
Spring	2002	COSC 6372 Computer Graphics	
		COSC 7373 ACV: Wavelets	New Content
Fall	2001	COSC 6373 Computer Vision	
Spring	2001	COSC 7373 ACV: Human Motion Analysis	New Course
Fall	2000	COSC 6373 Computer Vision	
Spring	2000	COSC 6372 Computer Graphics	
Fall	1999	COSC 6373 Computer Vision	
Spring	1999	COSC 6397 Computer Vision	
Fall	1998	COSC 6372 Computer Graphics	New Content
		COSC 7374 ACV: Physically-Based Deformable Models	New Course
Spring	1998	COSC 6397 Computer Vision	New Course
Fall	1997	COSC 6372 Computer Graphics	

Course Development: One of my teaching goals have been the introduction of new courses that will promote a novel way of teaching computer vision and computational biomedicine in general. I have introduced five *new* graduate-level courses (COSC 6373 Computer Vision; COSC 7373 Advanced Computer Vision; COSC 6391 Biomedical Image Analysis; COSC 6397 Advanced Biomedical Image Computing; COSC 7397 Advanced Image Computing – co-developed with Prof. Shah), I added new content for *COSC 6372 Computer Graphics* and *COSC 6397 Digital Image Processing*; and I have developed the content for five advanced courses (Physically-Based Deformable Models, Human Motion Analysis, Wavelets, Bioimaging, and Biomedical Computing) offered under the Advanced Computer Vision course number. Important components of these courses were the organization of the students into teams, and a balance between theoretical foundations and implementation details. These innovations substantially increased the student participation and enthusiasm. Student projects were derived from application areas of interest to the Houston Medical Center, NASA, and various oil companies. These application domains provided rich examples for class training. The projects were well received by the researchers who offered the data, and students gained valuable experience working on real-life problems.

Curriculum Development: As a member (1998-2002) and Chair (1999-2000) of the University of Houston's Computer Science Curriculum Committee, I participated in a substantial revision of the graduate courses offered in the Department. In the Fall of 1999, under my chairmanship of the committee, we began restructuring the undergraduate curriculum to introduce a second programming course and a large project programming course to place a direct emphasis on program design and development, and lay a solid foundation for concepts taught in upper-level courses.

5.2 Mentoring and Supervision

5.2.1 Staff Supervisor of:

5. S. Fidvi, Director of Programs (2022 - Present)
4. I. Florentino, Software Integration Director (2022 - Present)
3. I. Florentino, Application Developer (2021 - 2022)
2. C. Aviles-Ruiz, Program Manager (2021 - Present)
1. I. Konstandinidis, Executive Director (2015 - 2020)

5.2.2 Senior Researcher Mentor of:

1. D. Spiliotopoulos (May 2017 - April 2018)

5.2.3 Research Assistant Professor Advisor of:

3. M. Mavroforakis (February 2009 - May 2014)
2. U. Kurkure (December 2008 - October 2013)
1. Z. Zeng (October 2008 - June 2010)

5.2.4 Postdoc Advisor of:

26. C. Smailis (July 2022 - Present)
25. L. Ugwu (December 2021 - June 2022)
24. F. Gursoy (November 2021 - September 2022)
23. M. Vrigkas (May 2016 - April 2018)
22. T. Xie (April 2016 - April 2018)
21. S. Upadhyay (March 2015 - May 2017)
20. Y. Jiang (January 2012 - December 2012)
19. E. Zacharia (February 2011 - January 2013)
18. C. Zhao (February 2011 - August 2011)
17. D.R. Chittajallu (January 2011 - May 2011)
16. G. Evangelopoulos (November 2010 - December 2012)
15. X. Zhao (October 2010 - December 2012)
14. U. Kurkure (June 2008 - November 2008)
13. B. Efraty (May 2008 - December 2011)
12. A. Santamaria-Pang (January 2008 - August 2008)
11. H.E. Abd El Munim (December 2007 - July 2008)
10. S. Tan (June 2007 - May 2010)
9. G. Brunner (May 2007 - July 2009)
8. T.S. Bildea (August 2005 - September 2006)
7. I. Konstantinidis (August 2002 - August 2005)
6. C. Uehara (July 2002 - June 2004)
5. C. Williams (March 2002 - October 2003)
4. L. Shen (August 2001 - July 2002)
3. K. Sarh (January 2001 - April 2001)
2. G. Martinez (July 2000 - June 2002)
1. D. Chen (January 2000 - December 2000); Co-Advisor: R. Bowen Loftin

5.2.5 Research Associate Advisor of:

2. J.-O. Ocegueda-Gonzalez, *Face Recognition*, 2010 - 2011
1. G. Christakos, *Face Recognition*, 2009 - 2010

5.2.6 Ph.D. Thesis Advisor of:

29. A. Zakeri, *Medical Image Computing for COVID-19*, Dept. of Computer Science, UH, December 2026 (Expected)
28. A. Bikaki, *Deep Learning in Multimodal Data*, Dept. of Computer Science, UH, December 2025 (Expected)
27. C. Weatherly, *AI in Healthcare*, Dept. of Computer Science, UH, December 2025 (Expected)
26. T. Burt, *Physics-Aware Machine Learning*, Dept. of Computer Science, UH, December 2023 (Expected)
25. A. Bautista, *Disease Prediction*, Dept. of Computer Science, UH, December 2023 (Expected)
24. C. Smailis, *Action Labeling in Images and Video*, Dept. of Computer Science, UH, May 2022
23. A. Memariani, *Analysis of Scanning Electron Microscopy Images with Illumination Inhomogeneity and Touching-Crossing Cells*, Dept. of Computer Science, UH, December 2020
22. L. Shi, *Human Detection in the Wild*, Dept. of Computer Science, UH, August 2020
21. H. Le, *Illumination Invariant Face Recognition*, Dept. of Computer Science, UH, August 2020
20. X. Xu, *Face Recognition in the Presence of Variance in Pose, Expression, and Occlusions*, Dept. of Computer Science, UH, May 2019
19. N. Sarafianos, *Person Search Using Identity Attributes*, Dept. of Computer Science, UH, May 2019
18. M. Leng, *Improving Set-Based Face Recognition*, Dept. of Computer Science, UH, January 2019
17. Y. Wu, *Face Recognition in Unconstrained Conditions: Improving Face Alignment and Constructing a Pose-Invariant Compact Biometric Template*, Dept. of Computer Science, UH, December 2018
16. L. Zhang, *Towards Improving Single Label and Hierarchical Multi-Label Classification*, Dept. of Computer Science, UH, December 2017
15. P. Dou, *Single/Multi-View 3D Face Reconstruction for Pose-Robust Face Recognition*, Dept. of Computer Science, UH, September 2017
14. P. Moutafis, *Towards Improving Matching in Biometrics Systems*, Dept. of Computer Science, UH, December 2015
13. P. Hernandez, *3-D Morphology Extraction of Neurons*, Dept. of Computer Science, UH, May 2015 (Expected)
12. B. Almogahed, *Towards Improved Classification of Imbalanced Data*, Dept. of Computer Science, UH, December 2014
11. Y. Hai Le, *Shape Priors for Segmentation of Mouse Brain in Gene Expression Images*, Dept. of Computer Science, UH, May 2014
10. E.G., Mendizabal Ruiz, *Lumen Segmentation From Intravascular Ultrasound Data*, Dept. of Computer Science, UH, December 2012
9. D.R. Chittajallu, *Computational Methods for the Extraction of Cardiovascular Disease Biomarkers from Non-contrast CT Data*, Dept. of Computer Science, UH, December 2010
8. U. Kurkure, *Computational Methods for Non-Invasive Cardiovascular Image Analysis*, Dept. of Computer Science, UH, 2008
7. G. Toderici, *3D-aided 2D Face Recognition*, Dept. of Computer Science, UH, 2007
6. A. Santamaria-Pang, *Morphological Reconstruction of Neurons from Optical Imaging*, Dept. of Computer Science, UH, 2007
5. S. O'Malley, *Computational Methods for Contrast-Enhanced Intravascular Ultrasound Sequence Analysis*, Dept. of Computer Science, UH, 2007
4. M. Bello, *Learning-based Segmentation Framework for Gene Expression Patterns in the Mouse Brain*, Dept. of Computer Science, UH, 2006
3. A.N. Bandekar, *A Unified Knowledge-based Segmentation Framework for Medical Images*, Dept. of Computer Science, UH, 2006
2. A. Pednekar, *Cardiac Image Analysis: Morphology, Function, and Dynamics*, Dept. of Computer Science, UH, 2003
1. C. Barron, *Human Motion Tracking Using a Monocular Camera*, Dept. of Computer Science, UH, 2003

5.2.7 Ph.D. Thesis Co-Advisor of:

3. X. Yan, *Modeling Local Behavior for Multiperson Tracking*, Dept. of Computer Science, UH, May 2014. Primary Advisor: S. Shah
2. K. Tran, *Contextual Descriptors for Human Activity Recognition*, Dept. of Computer Science, UH, July 2013. Primary Advisor: S. Shah
1. C. Harding, *Multi-sensory Investigation of Geoscientific Data: Adding Touch and Sound to 3D Visualization and Modeling*, Dept. of Computer Science, UH, 2001. Primary Advisor: Prof. Loftin

5.2.8 Ph.D. Thesis Committee Member:

29. T. Ghosh, *Methods of finding structure in the complex network using Extremal Ensemble Learning (EEL)*, Dept. of Physics, UH, 2025. Primary Advisors: Dr. Kevin E Bassler (Physics, UH) and Dr. Gemunu Gunaratne (Physics, UH)
28. C. Cheek, *A Machine Learning Approach to Identifying the Biological Basis of Reading Disability: Deep Learning Applications to a Novel Large-Scale Neuroimaging-Genetic Data*, Dept. of Physics, UH, 2022. Primary Advisor: Prof. Gunaratne
27. Md Rafiqul Islam Rabin, *Methodology for Evaluating and Interpreting Neural Code Intelligence Models*, Dept. of Computer Science, UH, 2022. Primary Advisor: Dr. Mohammad Amin Alipour
26. G. Aguilar, *Neural Sequence Labeling on Social Media Text*, Dept. of Computer Science, UH, 2020. Primary Advisor: Prof. Solorio
25. M. Shafaei, *Detecting Objectionable Online Content for Children*, Dept. of Computer Science, UH, 2020. Primary Advisor: Prof. Solorio
24. Aftab Hussain, *Investigating the Behaviour of Generative Code Intelligence Models*, Dept. of Computer Science, UH, 2024 (expected). Primary Advisor: Dr. Amin Alipour, UH CS
23. A. Sivagnanam, *Thesis Title*, Dept. of Computer Science, UH, 2024. Primary Advisor: Dr. Aron Laszka.
22. F. Yasmin, *Computer Vision based Ridership Estimation*, Dept. of Computer Science, UH, 2024. Primary Advisor: Dr. A. Laszka
21. MD R. Rabin, *Methodology for Evaluating and Interpreting Neural Code Intelligence Models*, Dept. of Computer Science, UH, 2022. Primary Advisor: M. Alipour
20. T. Eghtesad, *Adversarial Resilient Control in Cyber-Physical Systems*, Dept. of Computer Science, UH, 2021. Primary Advisor: A. Laszka
19. C. Cheek, *Understanding the Biological Basis of Reading Disability: Machine Learning Applications to Novel Large-Scale Neuroimaging-Genetic Data*, Dept. of Physics, UH, 2022 (Expected). Primary Advisor: Prof. Gunaratne
18. M.R.I. Rabin, *Testing Neural Code Intelligence Models by Analyzing Input Code*, Dept. of Computer Science, UH, 2023. Primary Advisor: M.A. Alipour
17. Nikolaos Mitsakos, , Dept. of Mathematics, UH, 2018 (Expected), Primary Advisor: Emanuel Papadakis
16. R. Sachanandani, *Investigating the Mechanism of CXCR4, CXCR7, What Harvey's impact on the supply chain can teach us Neuromast Migration*, Dept. of Biology and Biochemistry, UH, 2018 (Expected), Advisors: J-A. Gustafsson and M. Bondesson
15. M. Vrigkas, *Action Recognition with Hidden Conditional Random Fields*, Dept. of Computer Science and Engineering, University of Ioannina, Greece, 2016 (Expected). Primary Advisor: C. Nikou
14. V. Karavasilis, *Visual Tracking in Image Sequences Using Mixture Models*, Dept. of Computer Science and Engineering, University of Ioannina, Greece, 2015 (Expected). Primary Advisor: C. Nikou
13. X. Zhang, *LIDAR Based Change Detection for Earthquake Surface Ruptures*, Dept. of Civil and Environmental Engineering, UH, 2012. Primary Advisor: C. Glennie
12. S. Kalasekar, *Zebrafish as a model to study obesogens and diabetogens*, Dept. of Biology and Biochemistry, UH, 2015. Advisors: J-A. Gustafsson and M. Bondesson
11. P. Perakis, *Landmark Detection for Unconstrained Face Recognition*, Dept. of Informatics and Telecommunications, National Kapodistrian University of Athens, Greece 2013. Primary Advisor: T. Theoharis
10. R. Wang, *Cryo-Electron Tomography of Human Blood Platelets*, Baylor College of Medicine, 2012 (Expected). Primary Advisor: W. Chiu (Baylor College of Medicine)
9. C.-S. Chen, *An Investigation of Density-based Spatial Data Mining Techniques*, Dept. of Computer Science, UH, 2011. Primary Advisor: C.F. Eick

8. X. Wu, *A Discriminative Framework for Screening Thyroid Cytological Sample Using Multispectral Data*, Dept. of Computer Science, UH, 2011. Primary Advisor: S. Shah
7. B. Hu, *Laser Multi-spectral Diffuse Scatter Confocal Microscopy*, Dept. of Electrical and Computer Engineering, UH, 2010. Primary Advisor: H. Le
6. C. Sun, *Preserving the Decision Boundary Through Data Selection for Support Vector Machines*, Dept. of Computer Science, UH, 2007. Primary Advisor: R. Vilalta
5. N. Sun, *Bio-heat Modeling of Peripheral Vascular Function and Applications*, Dept. of Computer Science, UH, 2006. Primary Advisor: I. Pavlidis
4. C.R. Booth, *Developing and Applying Tools For Data Acquisition In Electron Cryomicroscopy*, Baylor College of Medicine, 2005. Primary Advisor: W. Chiu (Baylor College of Medicine)
3. J. Feng, *Tissue Growth in 3D: A New Computational Model That Integrates Cell Heterogeneity and Diffusional Limitations of Nutrients and/or Growth Factors and its Parallel Implementation*, Dept. of Electrical and Computer Engineering, UH, 2005. Primary Advisor: P. Markenscoff
2. S. Mani, *A Parallel Computational Model for Growth of Tissues with Multiple Types of Cells*, Dept. of Electrical and Computer Engineering, UH, 2002. Primary Advisor: P. Markenscoff
1. B.B. Youssef, *Cell Proliferation and Migration: 3-D Modeling using Cellular Automata, Development of a parallel algorithm and its implementation on an IBM SP2*, Dept. of Electrical and Computer Engineering, UH, 1999. Primary Advisor: P. Markenscoff

5.2.9 M.Sc. Thesis Advisor of:

22. S. Tawakkol, *BBT-VR, the virtualization, and extension of stroke rehabilitation*, Dept. of Computer Science, UH, May 2023
21. M. Islam, *An Augmented Reality Application for Visualizing Anatomical Data*, Dept. of Computer Science, UH, May 2017
20. S. Yotov, *Towards a Change Detection in Laser Scanning Point Clouds*, Dept. of Computer Science, UH, December 2015
19. Z. Mughal, *Converting a Neuron Morphology Extraction System for Open Science: Design and Implementation*, Dept. of Computer Science, UH, August 2015 (Expected).
18. D. Chu, *Discriminative Semi-Coupled Dictionary Learning for Face Recognition*, Dept. of Computer Science, UH, December 2012.
17. O.C. Avila-Montes, *Segmentation of the Thoracic Aorta in Non-contrast Cardiac CT Images*, Dept. of Computer Science, UH, August 2011
16. M. Fang, *3D/4D Facial Expression Analysis*, Dept. of Computer Science, UH, May 2011
15. E. Sgouritsa, *Computer-Aided Planning for Endovascular Treatment of Intracranial Aneurysms*, Dept. of Computer Science, UH, May 2010
14. D.R. Chittajallu, *Computational Tools for Computer-Aided Breast Reconstructive Surgery*, Dept. of Computer Science, Univ. of Houston, 2007
13. J.R. Thigpen, *Photometric Calibration for Quantitative Spectral Microscopy Under Transmitted Illumination*, Dept. of Computer Science, UH, 2007
12. M. Murtuza, *Three-Dimensional Biometrics: Using data from the nose and/or the ear*, Dept. of Computer Science, UH, 2006
11. S. Urban, *Automatic Reconstruction of Dendrite Morphologies from Optical Sections of Living Fluorescently Labeled Neurons*, Dept. of Computer Science, UH, 2005
10. J. Liang, *Eye Detection and Face Recognition: Comparison of Algorithms*, Dept. of Computer Science, UH, 2005
9. N. Vajramushti, *Efficient 3D Object Retrieval Using Depth Images*, Dept. of Computer Science, UH, 2004
8. G. Passalis, *Three-dimensional Face Recognition*, Dept. of Computer Science, UH, 2004
7. K. Andersson, *Interpolation of Volumetric Data for Volume Visualization*, Dept. of Computer Science, UH, 2002
6. E. Shafer, *A Development Toolkit for OpenCV Using Microsoft DirectShow*, Dept. of Computer Science, UH, 2001
5. W.H. Volpi, *Comparison of Interpolation Methods for Volume Rendering*, Dept. of Computer Science, UH,

2001

4. J. Park-Jeong, *Creating Animations for Chemical Engineering Teaching Modules*, Dept. of Computer Science, UH, 2001
3. K. Nagabhushan, *Object Tracking in Compressed Video Sequences*, Dept. of Computer Science, UH, 2000
2. S. Duan, *Implementation of a Motion Retargeting System*, Dept. of Computer Science, UH, 1999
1. X. Zhu, *Visualization of DPPC Membrane Modules*, Dept. of Computer Science, UH, 1999

5.2.10 Honors Thesis Advisor of:

2. Z. Mughal, *Classification of Dendritic Spines in 3D Microscopy Images*, BSc thesis (Honors), Dept. of Biomedical Engineering, UH, May 2013
1. V. Zavaletta, *Fuzzy Connectedness Segmentation: Performance Evaluation*, BSc thesis (Honors), Dept. of Computer Science, UH, 2002

5.2.11 Undergraduate Advisor of:

10. M. Kortlander, *Anomaly Detection*, Dept. of Mathematics, UH, January 2022 - May 2022
9. N. Alexander, *Criminal Networks*, Dept. of Mathematics, UH, December 2021 - September 2022
8. J. Csicsery-Ronay, *Criminal Networks*, Dept. of Mathematics, UH, September 2021 - June 2022
7. K. Nguyen, *Image Annotation*, Dept. of Computer Science, UH, 2019 - 2020
6. M. Jovanovic, *Cardiovascular Informatics*, Dept. of Computer Science, UH, 2018-2019
5. R. Talwar, *Roz: Automatic Music Creation*, ECE, UH, 2016
4. N. Kessler, *Cancer Informatics*, Dept. of Computer Science, UH, 2012
3. F. Zahed, *Face Recognition*, Dept. of Biology, UH, 2009 - 2011
2. D. Chu, *Bibsync: A Collaborative Bibliography Tool*, Dept. of Computer Science, UH, 2008
1. Y. Lu. Dept. of Computer Science, UH, 2005

5.2.12 International Internship Advisor of:

26. K. Mahammadli (Middle East Technical University, Ankara, Turkey), *Biometrics*, 2022
25. B. Ayhan (Hacettepe University, Ankara, Turkey), *Medical Image Analysis*, 2022
24. A. Mitsou (University of Thessaly, Athens, Greece), *Sentiment Analysis*, 2022
23. I. Bouzghiba (ESPRIT Ecole Supérieure Privée d'Ingénierie et de Technologies, Tunis, Tunisia), *ChatBot*, 2022
22. A. Bentahar (ENSIAS Engineering School of Computer Science and Systems Analysis, Rabat, Morocco), *Smart Mobility*, 2019
21. M. Aqqa (ENSIAS Engineering School of Computer Science and Systems Analysis, Rabat, Morocco), *Analysis of Sounds*, 2016
20. A. Baez (ITESM Campus Monterrey), *Facial Age Recognition*, 2015
19. M. Aqqa (ENSIAS Engineering School of Computer Science and Systems Analysis, Rabat, Morocco), *Analysis of Sounds*, 2015
18. L. Omary (ENSIAS Engineering School of Computer Sciences and System Analysis, Rabat, Morocco), *Security and Privacy in Biometrics*, 2014
17. S. Sharma (Delhi College of Engineering, India), *Deep Metric Learning*, 2014
16. R. Mehrotra (Birla Institute of Technology and Science, Pilani, India), *Sparsity for Learning Coupled Representations from Multi-View Data*, 2012
15. N. Kohli (Indraprastha Institute of Information Technology, Delhi, India), *Kingship Detection in Facial Images*, 2012
14. A. Kumar (Birla Institute of Technology and Science, Pilani, India), *Sparse Coding for Face Recognition*, 2012
13. V. Malpani (Birla Institute of Technology and Science, Pilani, India), *3D Superresolution*, 2012
12. C. Huang (Southeast University, China), *Facial Landmark Detection*, 2010-2012
11. V. Christlein (University of Erlangen-Nuremberg), *Facial Landmark Detection*, 2010-2011
10. M. Meyer (University of Erlangen-Nuremberg, Germany), *Illuminant-Color Aware Face Recognition*, 2010-2011
9. C. Wang (Ecole Centrale de Paris, France), *MRF-Based Facial Landmark Configuration*, 2010
8. G. Singh (IIT Patna, India), *Eye Glasses Detection*, 2010

7. P. Balana (Ecole Centrale de Paris, France), *Heart Segmentation in CT Images*, 2009
6. J. Arcos-Argoty (Antioquia School of Engineering and CES University, Colombia), *Cardiac MRI*, 2009
5. C. Mavroforakis (Athens University of Economics and Business, Greece), *Geometric SVMs*, 2008
4. O.C. Avila-Montes (Antioquia School of Engineering, Colombia), *Automated Detection and Quantification of Calcifications in the Ascending and Descending Aorta in Non-Contrast Cardiac CT Images*, 2007
3. S. Demirtas, *IVUS Image Segmentation*, 2005
2. B. Walsh, *Online Morphological Reconstruction of Neurons*, 2005
1. J.A.V. Muriel (Centro Nacional de Biotecnologia, Campus de la Universidad Autonoma de Madrid, Spain), 2003, 2004

5.2.13 Internship Advisor of:

17. M. Mahin, *Flood Risk Modeling*, CS, UH, 2022
16. E. Platero, *Pedestrian Tracking*, CS, UH, 2022
15. M. Koumpanakis, *Distributed Deep Learning*, CS, UH, 2022
14. C. Livermore, *Face Recognition in Unconstrained Conditions*, CS, UH, 2022
13. B. Meliadi, *Computational Sociology*, CS, UH, 2021
12. L. Dyadkin, *Segmentation of CDIFF Cells*, Dept. of Mathematics, UH, 2019
11. M. Aqqa, *Face Recognition*, CS, UH, 2016-2017
10. O. Magana-Tellez, *Biomedical Image Analysis*, Dept. of Biomedical Engineering, UH, 2017
9. G. Giannoulis, *Predictive Analytics*, CS, UH, 2014
8. R. Yalamanchili, *Learning-Based Segmentation*, 2012
7. E. Bilgazyev, *Face Recognition*, CS, UH, 2012
6. R. Gentry, *Face Recognition*, CS, UH, 2011
5. C. Chaleva-Ntina, *Segmentation*, CS, UH, 2011
4. P. Kulkarni, *Face Recognition*, CS, UH, 2010
3. D. Safin, *Heart Segmentation*, CS, UH, 2010
2. I. Jegdic, *Heart Segmentation in CT Images*, CS, UH, 2009
1. D. de la Rosa-Pohl, *Segmentation*, CS, UH, 2003

5.2.14 Research Experience for Undergraduates Advisor of:

40. Eric Ingram (Amherst College), *Accuracy, Fairness, and Interpretability of Machine Learning Criminal Recidivism Models*, 2022
39. John Gardner (Rose-Hulman Institute of Technology), *Tradeoff between Fairness and Accuracy in Criminal Recidivism Prediction*, 2022
38. Luke Lorentzatos (Duke University), *Migration and open data management*, 2022
37. Uyen T Nguyen (Texas Tech University), *Personalized Chatbots*, 2021
36. Elisa Martinez Fuentes (UH), *Detecting Counterfeit Medical Products*, 2021
35. Khuong Nguyen (UH), *IDEATION: A generalizable Video Annotation Tool*, 2021
34. Akrixs Radilla (UH Downtown), *Facial Images with Masks: Detection and Recognition*, 2020
33. A. Zhamangaraeva (UH Downtown), *Predicting Hospital Re-admissions for Heart Failure*, 2019
32. H. Kachhadia (Nirma University), *Data Poisoning Attacks*, 2019
31. J. Easton (Centre College), *Heterogeneous Face Recognition*, 2018
30. T. Vasquez (University of Puerto Rico, Mayaguez), *Spoofing Identity*, 2018
29. D.J. Heaney (University of Wyoming), *An app for law enforcement witness testimonies*, 2017
28. H. Bilgrami (UH), *Classifying Agents on the Ground Using Drones*, 2015
27. A. Awad (University of Michigan), *PriML: Predicting Image likes for Instagram posts*, 2015
26. K. Tran (University of Maryland), *Sound Analysis: Acquisition, Processing, and Classification*, 2015
25. J. Baldwin (Tennessee Technological University), *Nail Capillaries: Unique or Not?*, 2014
24. J. Hills (University of Massachusetts, Amherst), *Cryptographic Systems*, 2014
23. A. Jablinski (UH), *Lego System*, 2014

22. S. Meriwether (UH), *Face Recognition with Mobile Devices*, 2014
21. M. Deibel (Dartmouth College), *Creating a Platform for Allergy Data Collection in Houston*, 2013
20. W. Rich (Austin Peay State University), *Crowdsourcing Facial Annotation Using Amazon's Mechanical Turk*, 2013
19. N. Kessler (UH), *Development and Validation of Computational Tools for Zebrafish Image Analysis*, 2012
18. A. Ensor (Williams College), *Towards a New Methodology for Disease Prediction*, 2012
17. J. Taylor (UH), *Physical Access Control*, 2012
16. Z. Mejias (University of Puerto Rico, Rio Piedras), *Statistical Models of Landmarks*, 2012
15. R. Rabsatt (University of California, Los Angeles), *Facial Landmark Detection with Online Learning*, 2011
14. R. Gentry (UH), *Face Recognition*, 2010
13. N. Waynesboro (Coastal Carolina University), *Image Segmentation*, 2010
12. T. Tisdall-Yamada (University of Hartford), *Image Analysis for Human Detection*, 2009
11. S. Vanderworth (Rensselaer Polytechnic Institute), *Lymph Scan Image Registration*, 2009
10. B.E. Morales-Quinones (University of Puerto Rico, Mayaguez), *Automatic Detection of the Inferior Boundary of the Heart in Non-Contrast Cardiac CT Data Using Dynamic Programming*, 2008
9. S. Wood, *Face Recognition*, 2008
8. J. Browning, *Face Recognition*, 2007
7. Y. Borisova (UH), *Automatic Heart Start/End Annotation*, 2007
6. C. Ayala, *Cardiovascular Informatics*, 2006
5. L. Tran, *Biometrics: 3D-THERMO CAM for Multi-Modal Face Recognition*, 2006
4. M. deLisi (Vanderbilt University), *Cardiovascular Informatics*, 2005
3. J. Seblak, *Face Recognition*, 2005
2. M.A. Kontopoulos (UCLA), *Outreach Video Production*, 2005
1. P.N. Saldanha (Southern Methodist University), *3D Face Recognition*, 2004

5.2.15 Visiting Scholars

9. April 1, 2017 - May 22, 2017: Prof. Theoharis Theoharis, Department of Computer Science, NTNU, Trondheim, Norway
8. September 1, 2015 - August 31, 2016: Prof. Christoforos Nikou, Department of Computer Science and Engineering, University of Ioannina, Epirus, Greece
7. September 8, 2012 - September 15, 2012: Prof. Pushpak Bhattacharyya, Department of Computer Science and Engineering, Indian Institute of Technology, Bombay, India
6. January 14, 2011 - January 23, 2011: Prof. Theoharis Theoharis, Dept. of Informatics, University of Athens, Greece
5. December 15, 2009 - December 23, 2009: Prof. Nikos Paragios, Dept. of Applied Mathematics, Ecole Centrale de Paris, Paris, France
4. October 15, 2009 - November 16, 2009: Dr. Stefanos Zafeiriou, Dept. of Electrical and Electronics Engineering, Imperial College London, UK
3. January 1, 2003 - May 31, 2003: Prof. Tomas Gustavsson (Head of the Image Analysis Group), on sabbatical from the Dept. of Signals and Systems, Chalmers University of Technology, Goeteborg, Sweden
2. September 1, 2002 - June 30, 2003: Prof. Theoharis Theoharis, on sabbatical from the Dept. of Informatics, University of Athens, Greece
1. April 9, 2002 - April 17, 2002: Dr. Anders Sundin, Human Motion Simulation Area Leader, National Institute for Working Life, Goeteborg, Sweden

5.3 Evidence of Student Learning

5.3.1 Mentee Awards

- 2022 J. Csicsery-Ronay, *Provost's Undergraduate Research Scholarship Program*, UH
- 2022 J. Csicsery-Ronay, *Phi Kappa Phi Honors Society*, UH
- 2020 M. Koumpanakis, *Second Prize, Houston COVID-19 Virtual Datathon*, Houston, TX
- 2020 T. Tavoulareas, *Third Prize, Houston COVID-19 Virtual Datathon*, Houston, TX

2019 A. Zhamangaraeva, *People's Choice Poster Award, REU Computer Science*
 2018 Y. Wu, *Best Ph.D. Student Award, CS, UH*
 2017 P. Dou, *Best Ph.D. Student Award, CS, UH*
 2017 M.M. Islam, *Best MS Thesis Student Award, CS, UH*
 2017 N. Sarafianos, *Ph.D. Showcase Winner, CS, UH*
 2016 P. Dou, *Best Paper Award, IEEE International Joint Conference on Biometrics*
 2016 P. Dou, *Ph.D. Showcase Winner, CS, UH*
 2016 M. Leng, *Best Junior Ph.D. Student Award, CS, UH*
 2016 M. Vrigkas, *Best Paper Award, IAPR/IEEE International Conference on Biometrics*
 2016 N. Sarafianos, *HPST Scholarship Award*
 2015 P. Moutafis, *Best Paper Award, International Symposium on Technologies for Homeland Security CS, UH, Houston*
 2015 P. Moutafis, *Best Ph.D. Student Award, CS, UH*
 2015 O. Magana-Tellez, *Vizapalooza Award, UH Center for Advanced Computing and Data Systems*
 2015 P. Moutafis, *Best Paper Award, UH Graduate Research and Scholarship Projects Day*
 2014 Y. L. Hai, *Best Ph.D. Student Award, CS, UH*
 2014 P. Moutafis, *NSF PETRA Conference Doctoral Consortium Travel Award*
 2014 S. Yotov, *NSF PETRA Conference Doctoral Consortium Travel Award*
 2014 P. Moutafis, *HPST Scholarship Award*
 2013 K. Tran, *Best Presentation Award, International Conference on Computer Vision Theory and Applications (VISAPP)*
 2012 N. Kessler, *Best Presentation Award, Computational Cancer Biology Training Program*
 2012 Z. Mejias, *Best Poster Award, UH Computer Science REU*
 2012 Y. Le Hai, *College of Natural Sciences and Mathematics Alumni Association (NSMAA) Eckhard Pfeiffer Alumni Scholarship, UH*
 2012 E. Bilgazyev, *Second Place, UHSC Ph.D. Showcase Event Presentation, UH*
 2011 D. Chu, *NSMAA Eckhard Pfeiffer Alumni Scholarship, UH*
 2011 Y. Le Hai, *NSMAA Eckhard Pfeiffer Alumni Scholarship, UH*
 2011 C. Chaleva-Ntina, *Travel Award to attend 2011 CRA-W Grad Cohort Workshop, Boston, MA*
 2011 E. Zacharia, *Computational Cancer Biology Fellow, Keck Center*
 2011 O.C. Avila-Montes, *NIH-sponsored Travel Award to attend International Symposium on Biomedical Imaging*
 2010 D.R. Chittajallu, *UHCS Best Overall Ph.D. Research, UH*
 2010 D. Chu, *College of Natural Sciences and Mathematics Alumni Association Scholarship, UH*
 2010 M. Fang, *College of Natural Sciences and Mathematics Alumni Association Scholarship, UH*
 2010 E. Sgouritsa, *Travel Award for the IEEE International Symposium on Biomedical Imaging*
 2010 E. Sgouritsa, *UHCS Best M.Sc. Thesis, UH*
 2009 B. Efraty, *Selected to attend the prestigious International Computer Vision Summer School, Sicily*
 2009 D. Chu, *College of Natural Sciences and Mathematics Alumni Association Scholarship, UH*
 2009 M. Fang, *College of Natural Sciences and Mathematics Alumni Association Scholarship, UH*
 2009 J. Niu, *Houston Science Club Presentation Award*
 2009 E. Sgouritsa, *College of Natural Sciences and Mathematics Alumni Association Scholarship, UH*
 2009 E. Sgouritsa, *Hellenic Professional Society of Texas Scholarship, Houston, TX*
 2008 O.C. Avila-Montes, an honorific mention for her B.Sc. thesis *Automated detection and quantification of calcifications in the ascending and descending aorta in non-contrast cardiac CT images*, Columbia
 2008 D. Chu, *College of Natural Sciences and Mathematics Alumni Association Scholarship, UH*
 2008 D. Chu, *UH Asian Alumni Association Scholarship*
 2008 M. Fang, *College of Natural Sciences and Mathematics Alumni Association Scholarship, UH*
 2008 K. Ghagada, *Nanobiology Fellow, Keck Center*
 2008 S. Subramanian, *3rd place Houston Science Club Poster Award*
 2007 S. O'Malley, *Student Paper Contest Finalist at the ICASSP 2007 for the paper Image-based frame gating of IVUS pullbacks: a surrogate for ECG*
 2006 U. Kurkure, *UH Computer Science Scholarship Award*
 2006 S. O'Malley, *UH Sigma Xi Graduate Student Poster Award*
 2006 G. Toderici, *UH Sigma Xi Graduate Student Poster Award*
 2005 U. Kurkure, *UH Sigma Xi Graduate Student Poster Award*
 2005 S. O'Malley, *UH Computer Science Best Software Award*

- 2004 M. Bello, *UHCS NuView Scholarship*
- 2004 M. Bello, *UH Sigma Xi Graduate Student Poster Award*
- 2004 M. Bello, *W. M. Keck Predoctoral Fellowships in Computational and Structural Biology*
- 2004 S. O'Malley, *NSF Graduate Research Fellowship*
- 2004 C. Uehara, *W. M. Keck Predoctoral Fellowships in Computational and Structural Biology*
- 2003 A. Pednekar, *UH Sigma Xi Graduate Student Research Achievement Award*
- 2002 C. Barron, *UH Sigma Xi Graduate Student Research Achievement Award*
- 2002 A. Pednekar, *3rd place UH NSM Alumni Association Student Challenge Award*
- 2002 A. Pednekar, *UH Sigma Xi Poster Award*
- 2002 V. Zavaletta, *UH Natural Science and Mathematics Alumni Poster Award*
- 2002 V. Zavaletta, *UH Outstanding Senior Honors Thesis Award, Honor College*
- 2001 C. Barron, *Exxon/Mobil Foundation Best Ph.D. Student Award, UH Department of Computer Science*
- 2000 C. Harding, *Best Student Oral Presentation Award at the Soc. of Exploration Geophysists (SEG) / Calgary International Exposition and 70th Annual Meeting, Calgary, Canada*

5.3.2 Student Externships

- 2022 E. Platero, *H-E-B, San Antonio, TX, US*
- 2022 T. Tavoulareas, *Microsoft (Virtual)*
- 2020 C. Smailis, *SONY (Virtual)*
- 2019 C. Smailis, *Intel (Virtual)*
- 2019 T. Tavoulareas, *Intel (Virtual)*
- 2018 M. Leng, *VISA, Foster City, CA*
- 2018 N. Sarafianos, *Facebook; Oculus Research, Sausalito, CA*
- 2018 X. Xu, *Amazon AI, Seattle, WA*
- 2018 Y. Wu, *Visa Research, Palo Alto, CA*
- 2017 H. Le, *CentraleSupélec, Paris*
- 2018 M. Leng, *Cadence Design Systems, San Jose, CA*
- 2017 N. Sarafianos, *Amazon Alexa, Cambridge, MA*
- 2017 X. Xu, *Amazon AI, New York, NY*
- 2016 P. Dou, *Apple, Cupertino, CA*
- 2016 Y. Wu, *Qualcomm Research, San Diego, CA*
- 2016 L. Zhang, *Sfile Technology Corporation, Houston, TX*
- 2013 Y. Le Hai, *Google, Mountain View, CA*
- 2013 Y. Wu, *Visa Research, CA*
- 2011 D. Chu, *Google, Mountain View, CA*
- 2006 A. Bandekar, *VisiGen Biotechnologies, Houston, TX*
- 2006 M. Bello, *Visualization and Computer Vision Lab, GE Global Research*
Topic: *Detection of Sub-solid Nodules in Lung CT Images*
- 2005 U. Kurkure, *Vital Images, Minnetonka, MN*
Topic: *Cardiac CTA: Left Atrium Segmentation*
- 2005 A. Santamaria-Pang, *Siemens Medical Solutions*
Topic: *Segmentation of Colon from Magnetic Resonance Imaging*

5.4 Other Evidence of Teaching, Student Learning, and the Scholarship of Teaching

Collaborative Teaching: I was one of the instructors for the “Computational Mathematics for Biomedical Scientists.” course offered by the Graduate School of Biomedical Sciences at Baylor College of Medicine in Fall 2001, 2002, 2003, and 2004.

Interdisciplinary Education and Outreach Activities: To motivate students about Computational Biomedicine, I often give lectures and seminars at other Departments at UH and other Universities, local student chapters, and honor society chapters. Also, I have co-organized workshops in the areas of Computer Vision for Intravascular and Intracardiac Imaging, Computer Vision Approaches to Medical Image Analysis (CVAMIA), Mathematical Methods in Biomedical Image Analysis (MMBIA), Human Motion Analysis, and the annual Pumps and Pipes conference in Houston, TX, was created to bring together medical, petrochemical, and academic researchers to stimulate discussion and share technologies that can further research in each area.

6 PROFESSIONAL SERVICE

6.1 Service to the Department, College, and University

6.1.1 Committees: UH Computer Science Department

- **Organizer**
 - UH CS Open House (2015)
 - UH CS Ph.D. Showcase (2013, 2014)
- **Standing Committees**
 - Awards Committee (2004-2008,2018)
 - Chair Search Committee (2009-2010)
 - Curriculum Committee (1998-2002, Chairman: 1999)
 - Equipment Committee (2004-2006)
 - Executive Committee (2004-2006, 2008-2011, 2013-2016,2019-2022; Chairman:2010-2011,2019-2020)
 - Faculty Evaluation Committee (2019-2022)
 - Faculty Search Committee (2001-2002,2018-2019)
 - Graduate Studies Committee (2009-2011)
 - Industrial Advisory Board (2002-2004)
 - Multimedia Classroom Committee (1998)
 - Numerical Analysis Qualifying Examination Committee (1999-2003)
 - Scholarship Committee (1999-2001)
 - Seminars' Organizer (1997-1999)
 - Software Engineering Qualifying Examination Committee (1997-1999)
- **Ad Hoc Committees**
 - Update of the handouts & website of the department (1998)
 - Purchase of computers for the Multimedia Classroom (1998)
 - Purchase of Portable Projectors (1999)
 - 50th Computer Science Anniversary Celebration (2018)
- **Faculty Coordinator**
 - COSC 6397 Visualization: Course coordinator for Prof. Theoharis (Fall 2002)
 - COSC 6372 Computer Graphics: Course coordinator for Prof. Theoharis (Fall 2002)
 - COSC 6397 Biomedical Image Analysis: Course coordinator for Prof. Gustavsson (Spring 2003)

6.1.2 Committees: UH Electrical and Computer Engineering

- Faculty Search Committee, Dept. of Electrical and Computer Engineering (2011)

6.1.3 Committees: College of Natural Sciences and Mathematics

- Promotion & Tenure Committee (2020-2022)
- Dean Search Committee (2010, 2013, 2014)
- Policy Committee (2008-2010,2014-2016,2020-2021)
- Strategic Planning Committee (2008)
- Space Committee (2011-2012)
- Teaching Excellence Committee (2003-2008, 2010-2011, Chairman: 2005,2011)

6.1.4 Committees: Tilman J. Fertitta Family College of Medicine

- Humana Institute Director of Research Search Committee (2019-2020)
- Humana Institute Internal Steering Committee (2020)
- Dept. of Health Systems and Population Health Sciences Search Committee (2022)
- Executive Director Search Committee (2022)

6.1.5 Committees: University of Houston

- ADVANCE Program, Professional Leadership Sub-Committee (2014)
- Campus Carry Implementation Committee (2015)
- Faculty Advisory Board for the Office of the UH Vice President of Research (2009-2011)
- Graduate Research and Scholarship Project Day; Chair Poster Committee (2014, 2015)
- Imaging Core Steering Committee (2012)
- Institute for Healthcare Innovation Visioning Committee (2019-2020)
- Personal Access Liaison (2011 - 2013)
- Teaching Excellence Award Mentor, Center for Teaching Excellence (2010-2011)
- Teaching Excellence Committee (2004-2007, 2005-2006 - Chair)
- The Esther Farfel Award Committee (2005-2007)
(The Esther Farfel Award is the highest accolade bestowed by the UH in recognition of faculty excellence)
- UH Professors with Pride (2012)

6.1.6 Faculty Advisor to Student Organizations

- 2004 – 2005 Faculty Advisor to the First American Medical Student Association
Premedical Chapter in Houston
- 2002 – 2003 Faculty Advisor to Houston AI and Robotics Society (HAIRS)

6.2 Service to the Profession/Academic Discipline

6.2.1 Vice President

- 2012 – 2015 Technical Activities, IEEE Biometrics Council

6.2.2 Technical Committee Co-Chair

- 2006 – 2008 IEEE Robotics and Automation Society on Computer and Robot Vision

6.2.3 Cluster Chair

- 2020 – 2022 Gulf Coast Consortia Cluster AI in Healthcare

6.2.4 Webinar Chair

- 2022 – Present IEEE Biometrics Council

6.2.5 Data Science Lead, Board Member

- 2020 – 2023 American Board of Artificial Intelligence in Medicine (ABAIM)

6.2.6 Awards Committee

- 2012 – 2019 Chair, IEEE Biometrics Council
- 2022 Member, IJCB 2022

6.2.7 Task Force Member

- 2019 – present Big Data Task Force, North American Primary Care Research Group

6.2.8 Datathon Co-Organizer

- Houston COVID-19 Virtual Datathon, Houston, TX, 2021
- Houston COVID-19 Datathon, Houston, TX, 2020

6.2.9 Curriculum Development

- **Focus Group Chair**
 - Focus group on *Graphics and Visualization*, Computing Curricula 2001, IEEE Computer Society
- **External Advisory Board Member**
 - Computer Vision Research Program, University of Nevada Reno, NV (2000-2004)

- Health Informatics Advisory Committee, Dept. of Health Informatics, School of Allied Health Sciences, University of Texas-Houston (1998)<https://www.overleaf.com/project/5c>

6.2.10 Conference Involvement

- **Invited Conference Speaker**

- How NOT to use AI: tragedies, common mistakes, and pitfalls, November 2022, AI in Healthcare Symposium, Texas Children Hospital, Houston, TX
- The First Step in Digital Identity in the Wild: Human Detection, September 2022, Federal Identity: Forum and Expo 2022, Atlanta, GA
- Machine Learning and Game Theory For Predictive Analytics in Medicine, April 2020, Deep-Texas Medical AI Symposium, Houston, TX
- AI Methods in the Setting of Precision Medicine, Texas Children's Hospital Symposium on AI in Pediatric Radiology, October 2019, Houston, TX
- AI-Powered Identity: Evaluating Face Recognition Capabilities, Embedded Vision Summit, July 2019, San Diego, CA
- Face Recognition: Recent Progress and Opportunities, 2nd International Workshop on Biometrics in the Wild 2017 (BWild 2017), June 2017, Washington DC
- Face Recognition: Challenges and Opportunities, International Conference of the Biometrics Special Interest Group, September 2014, Darmstadt, Germany
- What's in a Face? European Conference on Computer Vision Workshop, October 2012, Firenze, Italy
- International Conference on Information Communication Technologies in Health (ICICTH), July 2012, Samos, Greece
- 3rd International Workshop on Computer Vision for Computer Games (CVCG), June 2012, Providence, Rhode Island
- SPIE: Biometric Technology for Human Identification IX, April 2012, Baltimore, Maryland
- International Conference on Signal, Image and Video Processing (ICSIVP), January 2012, Patna, India
- Conference on Challenges and Solutions in Medicine in the 21st Century, July 2011, Houston, TX
- 52nd Annual National Student Research Forum "Challenges & Opportunities in Biomedical Computing," April 2011, Houston, TX
- 6th International Symposium on Visual Computing, December 2010, Las Vegas, NV
- XI Mexican Symposium on Computer-Aided Surgery and Medical Image Analysis - MEXCAS 2010, September 2010, Ciudad Universitaria, Mexico
- Conference on Challenges and Solutions in Medicine in the 21st Century, July 2010, Houston, TX
- 14th Iberoamerican Congress on Pattern Recognition, November 2009, Guadalajara, Mexico
- International Special Topic Conference on Information Technology in Biomedicine, November 2009, Larnaca, Cyprus
- WSEAS International Conference on Computational and Information Sciences, UH, May 2009, Houston, TX
- Pumps and Pipes 2, December 2008, Houston, TX
- Texas Life Science Conference (TLSC) Oncology Forum, November 2008, Houston, TX
- 8th International Conference on Bioinformatics and Bioengineering, October 2008, Athens, Greece
- 25th Annual Houston Conference on Biomedical Engineering Research, Houston Society for Engineering in Medicine and Biology, February 2008, Houston, TX
- 6th Annual International Cardiology Congress, November 2007, Athens, Greece
- International Conference VipIMAGE - I ECCOMAS, Thematic Conference on Computational Vision and Medical Image Processing, October 2007, Porto, Portugal
- AIP Conference on Data Mining, Systems Analysis and Optimization in Biomedicine, March 2007, Gainesville, FL

- 3rd Annual Workshop on Interdisciplinary Computational Science, March 2007, Houston, TX
- 5th Annual International Cardiology Congress, November 2006, Thessaloniki, Greece
- 23rd Annual Houston Conference on Biomedical Engineering Research, Houston Society for Engineering in Medicine and Biology, February 2006, Houston, TX
- 14th Annual Keck Center Research Conference, October 2004, Houston, TX
- 13th Scandinavian Conference on Image Analysis, June 2003, Goteborg, Sweden
- XI International Conference on Computing, November 2002
- 2nd International Workshop on Articulated Motion and Deformable Objects, November 2002, Palma de Mallorca, Spain
- International Conference in Central Europe on Computer Graphics, Visualization and Computer Vision, February 2001, Plzen, Czech Republic
- **Conference General Chair/Co-Chair**
 - International Joint Conference on Biometrics (2020), Houston, TX
 - International Conference on Biometrics: Theory, Applications, and Systems (BTAS) (2013)
 - SPIE Biometric and Surveillance Technology for Human and Activity Identification (2013, 2014, 2015)
 - Pumps and Pipes, Houston, TX (2007 - 2014)
 - 4th WSEAS International Conference on Mathematics and Computers in Biology and Chemistry (2003)
- **Workshop Chair/Co-Chair**
 - IEEE International Workshop on Computer Vision for Computer Games (CVCG) (2011, 2012)
- **Workshop Co-Organizer**
 - *CVII Computer Vision for Intravascular and Intracardiac Imaging (MICCAI)*, Toronto, Canada September 2011 (with Gozde Unal, Nassir Navab, and Milan Sonka)
 - *CVII Computer Vision for Intravascular and Intracardiac Imaging (MICCAI)*, New York, NY September 2008 (with Gozde Unal, Nassir Navab, and Milan Sonka)
 - *CVII Computer Vision for Intravascular and Intracardiac Imaging (MICCAI)*, Copenhagen, Denmark October 2006 (with Greg Slabaugh and Allen Tannenbaum)
 - *Computer Vision Approaches to Medical Image Analysis (CVAMIA) and Mathematical Methods in Biomedical Image Analysis (MMBIA) Workshop*, Prague, Czech Republic May 2004 (with Milan Sonka and Jan Kybic)
 - *Robotics and Computer Vision Workshop*, Las Vegas, NV, October 2003
 - *Symposium to Honor Prof. S. Lennart Johnsson's 60th Birthday*, Houston, TX, December 2004
 - *TEXGRAPH'01: A Symposium on Computer Graphics & Computer Vision*, Houston, TX, May 2001
 - *Texas Systems Day*, Houston, TX, October 2004
 - *2003 NSF PI Workshop on Robotics and Computer Vision*, Las Vegas, NV, October 2003 (with H. Asada (MIT), C. Tomasi (Duke), and M. Zefran (UIC))
 - *IEEE Human Motion Analysis and Synthesis*, Hilton Head Island, SC, June 2000 (with R. Sharma)
- **Program Chair/Co-Chair**
 - Biometrics: Theory, Applications, and Systems (2019)
 - Computer Vision Approaches to Medical Image Analysis Workshop, Prague, Czech Republic (2004)
 - IEEE 5th International Conference on Advanced Video and Signal Based Surveillance (2008)
 - IEEE 11th International Conference on Automatic Face and Gesture Recognition (2015)
 - International Workshop on Computer Vision for Intravascular and Intracardiac Imaging (2006, 2008)
- **Area Chair**
 - Computer Vision & Pattern Recognition Conference (2014)
 - European Conference on Computer Vision (2022)

- IEEE Conference on Automatic Face and Gesture Recognition (2013)
- IEEE International Conference on Pattern Recognition (2013)
- IEEE International Symposium on Biomedical Imaging (2013, 2014)
- International Conference on Pattern Recognition (2012)
- International Conference on Computer Vision (2015)
- International Joint Conference on Biometrics (2013, 2015)
- Medical Image Computing and Computer-Assisted Intervention (2008, 2011-2013)
- **Challenges / Competitions**
 - Organizer; Lumen + External Elastic Laminae (Vessel Inner and Outer Wall) Border Detection in IVUS Challenge, CBL, 2011
 - Advisor; Algorithm Challenge: Stories of Women in History, Culture, Science and Technology, IVOW Labs, 2019
 - Faculty Advisor; Adobe Data Analytics Challenge, 2019
- **Track Co-Chair**
 - International Conference on Pattern Recognition (2016)
- **Demos Co-Chair**
 - 11th European Conference on Computer Vision (2010)
 - IEEE Workshop on Applications of Computer Vision (2007)
- **Workshops Co-Chair**
 - IEEE Conference on Automatic Face and Gesture Recognition (FG) (2013)
- **Video Co-Chair**
 - Video Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition (2005, 2006, 2014)
- **Publications Chair**
 - IEEE Computer Vision and Pattern Recognition Conference (2005, 2006)
 - IEEE Nonrigid and Articulated Motion Workshop (1997)
- **Tutorials Co-Chair**
 - IEEE International Conference on Automatic Face and Gesture Recognition (2013)
 - IEEE International Conference on Computer Vision (2007)
 - International Joint Conference on Biometrics (IJCB 2014)
 - International Conference on Biometrics (ICB 2016)
- **Exhibits Chair**
 - International Joint Conference on Biometrics (2014)
 - IEEE Virtual Reality (1999)
- **Short Courses Co-Chair**
 - IEEE International Conference of Computer Vision (2007)
 - International Society for Bayesian Analysis Doctoral Symposium Chair (ISBA 2015, 2016)
- **Video Chair**
 - Computer Vision and Pattern Recognition Conference (2014)
 - Award Committee Co-Chair (BTAS 2016)
 - Conference Advisory Board (BTAS 2015)
- **International Advisory Committee**
 - International Conference on Signal, Image and Video Processing (2012)
- **Steering Committee Member**
 - Biomedical Discovery for Large Scale Data Sets
 - International Vulnerable Patient Registry: US IVP Registry Steering Committee
 - MICCAI Workshop on Computing and Visualization for (Intra)Vascular Imaging (CVII 2011)
 - NSF Information and Data Management Workshop (IDM 2003)
 - SAE Digital Human Modeling Conference
- **Program Committee Member**
 - REU Symposium (2022)
 - AAAI Conference on Artificial Intelligence (2019)
 - 300 Faces In-the-Wild Challenge (300-W) (2013)

- ACM Computer Animation (2000-2002)
- ACM International Workshop on 3D Object Retrieval (2010)
- ACM International Workshop on Video Surveillance and Sensor Networks (2004)
- ACM Multimedia (2013)
- ACM SIGMM Workshop on Video Surveillance (2003)
- AMBIENT International Conference on Ambient Computing, Applications, Services, and Technologies (2012)
- Asian Conference on Computer Vision (2012)
- Conference on Articulated Motion and Deformable Objects (AMDO) (2002, 2004, 2006, 2008, 2010, 2012)
- CGS Annual Conference on Computer Animation and Social Agents (CASA 2003)
- CGS Computer Graphics International (2004, 2005)
- CIPPRS International Workshop on Video Processing and Recognition (2008)
- ECCV Computer Vision Approaches to Medical Image Analysis Workshop (2004)
- ECCV Workshop on Human-centric Visual Computing in Interactive Environments (2012)
- Eurographics Workshop on 3D Object Retrieval (2009, 2010)
- European Conference on Computer Vision (2012)
- IAPR/IEEE International Conference on Biometrics (ICB) (2011,2012,2015)
- IASTED International Conference on Signal and Image Processing (2003, 2005)
- IASTED International Conference on Telehealth (2005)
- IASTED International Conference on Visualization, Imaging and Image Processing (2004, 2005, 2006)
- ICCV International Conference on Computer Vision (2011,2019)
- Iberoamerican Congress on Pattern Recognition (2009)
- IEEE/RSJ International Conference on Intelligent Robots and Systems (2003)
- IEEE Biometrics Symposium (2007, 2008)
- IEEE Conference on Computer Vision and Pattern Recognition (1998,2000,2009,2012,2013,2019)
- IEEE Computer Society Workshop on Mathematical Methods in Biomedical Image Analysis Workshop (MMBIA) (2004-2009, 2012)
- IEEE Human Motion Analysis (2000)
- IEEE International Conference on Advanced Video and Signal Based Surveillance (2003, 2005, 2007, 2009, 2010)
- IEEE International Conference on Automatic Face and Gesture Recognition (FG) (2008, 2011)
- IEEE International Conference on Biometrics: Theory, Applications, and Systems (2007, 2008, 2009, 2010, 2012)
- IEEE International Conference on Image Processing (2012, 2013)
- IEEE International Conference on Machine Learning and Applications (ICMLA) (2008)
- IEEE International Conference on Neural Networks (2008)
- IEEE International NAISO Congress on Information Science Innovations (ISI 2001)
- IEEE International Symposium on Bioinformatics and Biomedical Engineering (2000)
- IEEE Symposium on Bioinformatics and Bioengineering (2002)
- IEEE Workshop on Articulated and Nonrigid Motion (2004)
- IEEE Workshop on Biomedical Image Analysis (2000)
- IEEE Workshop on Camera Networks and Wide Area Scene Analysis (2011, 2013)
- IEEE Workshop on Combined Research-Curriculum Development in Computer Vision (2001)
- IEEE Workshop on Face Processing in Video (2005)
- IEEE Workshop on Face Recognition Grand Challenge Experiments (2005)
- IEEE Workshop on Mathematical Methods in Biomedical Image Analysis (2009, 2012)
- IEEE Workshop on Motion and Video Computing (2002)
- IEEE Workshop on Variational, Geometric & Level Set Methods (VLSM) (2005)
- International Joint Conference on Biometrics (2011)

- International Conference on Ambient Computing, Applications, Services, and Technologies (2012)
- International Conference on Functional Imaging and Modeling of the Heart (2011)
- International Conference on Pattern Recognition (ICPR) (2010, 2012, 2014)
- International Conference on Pervasive Technologies Related to Assistive Environments (PETRA) (2013)
- International Conference on Pervasive Technologies Related to Assistive Environments (2015)
- International Society for Bayesian Analysis (2015)
- International Symposium on Medical Simulation (2004)
- International Symposium on Visual Computing (ISVC) (2000-2008, 2010, 2012)
- International Workshop on Biometrics in the Wild (2017)
- ISI International NAISO Symposium on Information Science Innovations in Clinical Trials (2001)
- KDD Workshop on Data Mining for Healthcare (DMH) (2011)
- Medical Image Computing and Computer-Assisted Intervention (MICCAI) (2006-2009, 2011, 2013)
- MICCAI International Workshop on Computer Vision for Intravascular and Intracardiac Imaging (CVII) (2006, 2008, 2011)
- MICCAI Workshop on Interdisciplinary Clinical Software Support (2012)
- Microscopic Image Analysis with Applications in Biology (MIAAB) (2006-2009)
- Pacific-Rim Symposium on Image and Video Technology (PSIVT) (2013)
- Pervasive Technologies Related to Assistive Environments (PETRA) (2014)
- SPIE Biometric Technology for Human Identification (2007, 2010-2012)
- SPIE Optics and Photonics - Wavelets and Sparsity XIV (2011)
- SSVM International Conference on Scale Space and Variational Methods in Computer Vision (2007)
- VISAPP International Conference on Computer Vision Theory and Applications (2008)
- WSCG International Conferences in Central Europe on Computer Graphics, Visualization and Computer Vision (2001-2006)
- **Tutorial Co-Organizer**
 - 3D-Aided Face Recognition, International Joint Conference on Biometrics, Washington DC, October 11, 2011
 - Computing at the Intersection with Biomedical Imaging, IEEE Region 5 2002 Annual Technical Conference, Clear Lake, TX, April 19-21, 2002
- **Tutorial Speaker**
 - 3D-Aided Face Recognition, International Joint Conference on Biometrics, 2011
 - Image Processing for Volume Graphics, IEEE Visualization, 2000
 - Image Processing for Volume Graphics, ACM SIGGRAPH, 2001
- **Summer School Speaker**
 - International Society for Bayesian Analysis (2015, 2016)
 - 9th International Summer School for Advanced Studies on Biometrics for Secure Authentication (2012, 2020)
- **Selected Invited Lectures-Outreach**
 - May 2022: Conversation Cafe, UH Population Health, Houston, UH, Houston, TX
 - March 2022: AI and Computer Science, March 2022, UH-Downtown, Houston, TX
 - The Fields Institute, 2010, Toronto, Canada
 - March 27, 2013: UTHealth Science Center SBMI Research Seminar Series, Houston, TX
 - August 30, 2011: IEEE EMBS Mini-Symposium CFP Cardiovascular Risk Screening, Boston, MA
 - April 21, 2011: National Student Research Forum, University of Texas Medical Branch, Galveston, TX
 - July 7, 2010: Conference on Challenges and Solutions in Medicine in the 21st Century, Houston, TX

- September 3, 2009: Microscopic Image Analysis with Applications in Biology, Bethesda, MD
- **Doctoral Consortium Co-Organizer**
 - IEEE International Conference on Identity, Security and Behavior Analysis, Hong Kong, 2015
 - International Joint Conference on Biometrics, Washington DC, 2011
- **Session Organizer**
 - *Sparsity in Face Recognition*
Wavelets and Sparsity XIV - part of SPIE Optics and Photonics Conference, San Diego, California, August 21-25, 2011
 - *Image Processing*
31st Annual International Conference of the IEEE Engineering in Medicine and Biology Society, Minneapolis, MN, September 2-6, 2009
 - *Novel Biometrics*
IEEE International Conference on Advanced Video and Signal-Based Surveillance, London, United Kingdom, September 5-7, 2007
 - *Visual Computing*
The 10th International Conference in Central Europe on Computer Graphics, Visualization and Computer Vision 2001, Plzen, Czech Republic, February 4-8, 2002
 - *Computing Curricula 2001*
The 9th International Conference in Central Europe on Computer Graphics, Visualization and Computer Vision, Prague, Czech Republic, February 5-9, 2001
 - *Medical Robotics*
Intelligent Space Systems & Robotics/Intelligent Medical Systems & Robotics Conference, Houston, TX, September 1-5, 2000
 - *Human Motion and Posture Measurement*
SAE Digital Human Modeling for Design and Engineering, Hague, Netherlands, May 18-20, 1999
 - *Learner-Centered Multimedia Explorations for the New Millennium*
8th Annual Scholarship & Community Conference - The Next Generation: The Impact of Technology on Learning, UH, October 7, 1998
- **Panelist**
 - October 8, 2010: *UH Computer Science Ph.D. Research Showcase Event*, UH, Houston, TX
 - October 28, 2008: *Reality Chat*, University of Houston Bio-Research Career Information Day, UH, Houston, TX
- **Senior Advisor**
 - *Smart Systems 2000*, Houston, TX, September 6-8, 2000
- **Committee Member - Best Student Paper Award**
 - IEEE International Conference on Automatic Face and Gesture Recognition (2011, 2013)
- **Panel Member - Vision Product of the Year Award**
 - Embedded Vision Summit 2019

6.2.11 Editorial and Reviewer Work

- **Associate Editor**

2002 – present	International Journal Computacion y Sistemas (CyS)
2021 – present	IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI)
2020 – present	Intelligence-Based Medicine
2018 – present	Transactions on Biometrics, Behavior, and Identity Science (T-BIOM)
2011 – present	International Journal of Biomedical Data Mining (IJBDM)
2010 – present	Lecture Notes in Computer Vision and Biomechanics
2010 – present	Journal of Biomedical Data Mining
2010 – present	Machine Vision and Applications

2009 – 2013	Annals of Biomedical Engineering
2006 – present	International Journal for Computational Vision and Biomechanics
2006 – present	Image and Vision Computing
2004 – present	International Journal of Human Factors Modeling and Simulation (IJHFMS)

- **Editorial Board Member**

- *Journal Recent Patents on Electrical Engineering*

- **Guest Co-Editor**

- *Applied Sciences*, Special Issue on "Advances in Biomedical Image Processing and Analysis" (Eds. M. Vrigkas, C. Nikou, and I.A. Kakadiaris), April 2022
- *IEEE Transactions on Biometrics, Behavior, and Identity Science (T-BIOM)*, Special Issue on BTAS2019 (Eds. D. Woodward, S. Schuckers, and I.A. Kakadiaris)
- *International Journal of Cardiovascular Imaging* Special Issue on Computer Vision for Intravascular and Intracardiac Imaging (Eds. G. Unal, I.A. Kakadiaris, Milan Sonka Nassir Navab), November 2009
- *IEEE Transactions of Information Technology in Biomedicine* Special Issue on Computer Vision for Intravascular and Intracardiac Imaging (Eds. G. Unal, G. Slabaugh, I.A. Kakadiaris, A. Tannenbaum), February 2008
- *Machine Vision and Applications*, Special Issue on Human Motion Analysis (Eds. I. Kakadiaris, R. Sharma, and M. Yeasin), May 2002

- **Reviewer for proposals**

- Army Research Lab (2020)
- Center for Complexity Science (2007)
- Greek Ministry for Education, Life Long Learning, and Religious Affairs (2010-2011)
- National Aeronautics and Space Administration (2000, 2006)
- National Institutes of Health: BMIT (2007), BRP (2010)
- National Library of Medicine (2010, 2012)
- National Science Foundation (2000-2022)
- Research Grants Council (RGC) of Hong Kong (2010)
- Sam Houston State University (Internal Grant Program, 2008)
- Swiss National Science Foundation (2011)
- Grants to Enhance and Advance Research (GEAR), UH (1998, 2007, 2008-2010)
- WWTF: Vienna Science and Technology Fund (2007)

6.2.12 Training Grant Participation

- **Steering Committee**

- Biomedical Discovery for Large Scale Data Sets Steering Committee (2006-2009)
- Computational Cancer Biology, Cancer Prevention and Research Institute of Texas (CPRIT) (2010-2015)

- **Evaluation Panel**

- DoD SMART Scholarship Program (2022)

6.2.13 Department Evaluator

- Department of Computer Science, University of Texas, San Antonio (2008)
- Department of Computer Science, University of Tripoli, Greece (2011)

6.3 International Evaluator

- Hellenic Quality Assurance Agency

6.4 Tenure and Promotion Faculty Evaluator

- Baylor College of Medicine, Houston, TX
- Boston University, Boston, MA

- Cedars-Sinai Medical Center, CA
- The Hong Kong Polytechnic University, Hong Kong
- Institute of Computer Science, Crete, Greece
- Michigan State University, MI
- Rutgers University, NJ
- Simon Fraser University, Burnaby, Canada
- Texas State University, TX
- University of Athens, Athens, Greece
- University of Crete, Crete, Greece
- University of Georgia, Athens, GA
- University of Houston - Downtown, Houston, TX
- University of Ioannina, Ioannina, Greece
- University of Tennessee Health Science Center, TN
- University of Thessaly, Greece
- West Virginia University, WV

6.5 Selected Invited Lectures-Research

- January 30, 2019: *AI for Identity and Health*, UH Department of Computer Science, Houston, TX
- June 25, 2018: *AI-Powered Data Science*, Data Sensing, Science & Systems for Space Symposium, Houston, TX
- October 23, 2013: *Improving Prediction of Heart Attack Risk*, Science Impacting Health and Society Seminar Series, UH
- January 24, 2011: *3D-Aided Face Recognition*, Department of Computer Science, Stony Brook University, NY
- October 11, 2010: *3D-Aided Face Recognition*, Computational Optical Sensing and Imaging Seminar Series, the University of Colorado at Boulder, CO
- July 7, 2010: *Your Face Is Your Password*, Conference on Challenges and Solutions in Medicine in the 21st Century, Texas Medical Center, Houston, TX
- December 1, 2008: *Quo Vadis, Cardiovascular Informatics?*, Computational Surgery and Dual Training Workshop, University of Strasbourg, Strasbourg, Germany
- November 10, 2008: *Cardiovascular Informatics: How to Stop a Heart Attack Before it Happens*, University of Pennsylvania
- November 6, 2008: *Can Seismic Data Analysis Benefit from Medical Image Analysis Techniques?*, University of Houston Imaging Symposium, Houston, TX
- April 24, 2008: *Cardiovascular Informatics: How to Stop a Heart Attack Before it Happens*, Technische Universität München, München, Germany
- March 18, 2008: *Recent Advances at the UH Computational Biomedicine Lab*, Rice University Institute of Biosciences and Bioengineering NIH Biotechnology Luncheon Lecture Series
- December 7, 2007: *Cardiovascular Informatics: How to Stop a Heart Attack Before it Happens*, BMES Industry Chapter Meeting, Houston, TX
- November 12, 2007: *Medical Image Computing*, Pumps and Pipes Conference, Houston, TX
- October 17, 2007: *Latest Advances in Cardiovascular Informatics*, International Conference VipIMAGE - I ECCOMAS Thematic Conference on Computational Vision and Medical Image Processing, Porto, Portugal
- March 28, 2007: *Latest Advances in Cardiovascular Informatics*, Conference on Data Mining, Systems analysis and Optimization in Biomedicine, Gainesville, FL
- December 17, 2006: *Latest Advances in Cardiovascular Informatics*, BMES Houston Industry Chapter
- November 17, 2006: *Beyond morphologic assessment: IVUS contrast-enhanced imaging of the vasa vasorum*, 5th Annual International Cardiology Congress, Thessaloniki, Greece
- November 14, 2006: *Cardiovascular Informatics*, Dept. of Informatics and Telecommunications, U. of Athens, Athens, Greece
- November 12, 2006: *Cardiovascular informatics: How to stop a heart attack before it happens*, Greek IEEE-EMBS Chapter, "Trends in Medical Imaging", School of Electrical and Computer Engineering,

National Technical University of Athens, Athens, Greece

- June 10, 2006: *Beyond morphologic assessment: IVUS contrast-enhanced imaging of the vasa vasorum*, Vulnerable Plaque Summit, Houston, TX
- June 10, 2006: *Your Face is Your Password*, Honeywell Labs, Minneapolis, MN
- September 7, 2005: *Signal Processing Approaches to Cardiovascular Risk Screening*, McGovern Town Meeting, Houston, TX
- March 24, 2005: *Changing the Way People See Computers: Cardiovascular Informatics*, Department of Bioengineering, Columbia, New York, NY
- March 23, 2005: *Changing the Way People See Computers: Cardiovascular Informatics*, Department of Computer and Information Sciences, Univ. of Pennsylvania, Philadelphia, PA
- November 24, 2004: *Changing the Way People See Computers*, Academy of Science and Technology, Conroe Independent School District
- January 2003: UIUC
- May 16, 2003: *What do the Medical Center, NASA, and Oil Industry Have in Common?*, Division of Computer and Information Sciences, Rutgers The State University of New Jersey, Piscataway, NJ
- April 25, 2003: *Passive Human Motion Capture*, Department of Electrical and Computer Engineering, University of Texas-Austin, Austin, TX
- July 4, 2002: *What do the Medical Center, NASA, and Oil Industry have in Common?*, Department of Computer Science, University of Crete, Crete, Greece
- April 18, 2002: *Computing at the Intersection with Biomedical Imaging*, IEEE Region 5 2002 Annual Technical Conference, Clear Lake, TX, April 19-21, 2002
- February 22, 2002: *About the IEEE Computer Society*, Reception and Dinner honoring Dr. Willis King, UH Department of Computer Science
- January 31, 2002: *What do the Medical Center, NASA, and Oil Industry have in Common?*, Department of Computer Science, UH, Houston, TX
- November 16, 2001: *Computing at the Intersection with Biomedical Imaging*, Keck Seminar Series, Keck Center for Computational Biology, Houston, TX
- February 23, 2001: *Physics-Based Techniques for Computer Vision and Biomedical Data Analysis*, Department of Computer and Information Science, The Ohio State University, Columbus, Ohio
- February 6, 2001: *Keynote Speaker International Conference in Central Europe on Computer Graphics, Visualization, and Computer Vision*, Prague, Czech Republic
- February 5, 2001: *Physics-Based Techniques for Computer Vision and Medical Data Analysis*, Center for Machine Perception, Faculty of Electrical Engineering, Department of Cybernetics, Czech Technical University, Prague, Czech Republic
- December 11, 2000: *Physics-Based Techniques for Computer Vision and Medical Data Analysis*, Department of Information Technology and Electrical Engineering, Swiss Federal Institute of Technology, Zurich, Switzerland
- June 5, 2000: *Data Interrogation in Visual Computing*, Department of Computer Science, University of California, Santa Barbara, CA
- May 2000: *Using Vision for Animating Virtual Humans*, TEXGRAPH'00 - A Symposium on Computer Graphics, College Station, TX

7 OUTREACH

7.1 Lectures to Visiting Groups

- November 20, 2008: LaJoya Senior High School Tour of University of Houston

7.2 OpEd Publications

- October 26, 2017: *mysanantonio.com - Kakadiaris, Iakovou: What Harvey's impact on the supply chain can teach us* <http://www.mysanantonio.com/opinion/outlook/article/Kakadiaris-Iakovou-What-Harvey-s-impact-on-12309738.php>
- October 26, 2017: *Houston Chronicle - Kakadiaris, Iakovou: What Harvey's impact on the supply chain can teach us* <http://www.houstonchronicle.com/opinion/outlook/article/Kakadiaris-Iakovou-What-Harvey-s-impact-on-12309738.php>

7.3 Guest Faculty

- September 2022: Health Informatics, COM, UH
- September 2021: Health Informatics, COM, UH

7.4 Community Outreach

- Session Moderator: *17th Annual Conference Charting the Path Toward Solutions for Health Equity, Online (2022) Co-organizer : Conference on Challenges and Solutions in Medicine in the 21st Century*, A conference designed for academically gifted students in 10th through 12th grades, Houston, TX (2010)
- Interviewer: Penn Alumni Interviewer (2012, 2013)
- Judge: Odyssey of the Mind (2010, 2011)
- Science Fair Judge: Alief ISD, Houston, TX (2009)
- Science Fair Judge: River Oaks Elementary, Houston, TX (2007, 2008)

7.5 Technology Demonstrations

March 27, 2017:	BTI Institute, Ribbon Cutting Showcase, Houston TX
November 13, 2015:	Open House, UH CS, Houston, TX
October 26, 2010:	Biometrics Identity Management Agency (BIMA), Fairmont, WV
March 28, 2009:	University of Houston's Frontier Fiesta, Houston, TX
November 20, 2008:	LaJoya Senior High School Tour of University of Houston, Houston, TX
February 16, 2008:	<i>Recent Advances at CBL</i> , IBB's 3 rd Annual Internship Fair, Houston, TX
November 2007:	<i>Recent Advances at CBL</i> , Visit by 45 LaJoya High School Students, Houston, TX
October 20, 2007:	<i>Recent Advances at CBL</i> , UH CS Open House, Houston, TX
May, 2007:	<i>3D Face Recognition</i> , Mock Prison Riot 2007, Moundsville, WV
February 20, 2007:	<i>3D Face Recognition</i> , WACV 2007, Austin, TX
October, 2006:	<i>3D Face Recognition</i> , Supercomputing 2006, Tampa, FL
April 8, 2006:	<i>Recent Advances at CBL</i> , UH CS Open House, Houston, TX

7.6 Outreach Video

1. UH Computational Biomedicine Lab, "Detecting and defusing the ticking time-bomb in the heart," 2005.

7.7 Software Dissemination

- ORION (Online Morphological Reconstruction of Neurons) <http://cbl.uh.edu/ORION/research/software>.

7.8 Dataset Dissemination

- SynPose300 Database (<http://cbl.uh.edu/pages/research/synpose300>), The SynPose300 database is designed to support research in the areas of computer vision that foster new technologies for improving the robustness of automatic 3D pose estimation techniques, specifically concerning variations in (i) anthropometric measurements for both genders, (ii) viewing distance (close and far) and angle (0, 45 and 90 degrees) of the subject, (iii) human actions (walking, picking up box and gymnastics) and (iv) clothing (loose and tight). It comprises 288 videos from 8 different human synthetic models and their respective ground truth. It consists of the 3D global coordinates of each joint of the skeleton, the camera position (location and orientation), and its focal length.
- UHCBL DB1 Database (<http://cbl.uh.edu/URxD/datasets/>). The UHDB1 database consists of 3D captures of 141 subjects. The 3D captures consist of 3D meshes and textures taken of the subject in 5 different poses (-90, -45, 0, 45, 90-degree yaw). The same subject is also captured in two different cars with the camera 90 degrees to the subject's left. In a normal pose, the subject looks to the left side of the image. Only half of the subject is visible in a normal pose. In each car, each subject has seven captures of a different pose with a neutral expression and one of a normal pose with a happy expression. In summary, a total of 21 captures are made per subject.
- UHCBL DB7 Database, The UHDB7 consists of 281 subjects and 1075 datasets. The subjects can have facial expressions but not wear facial accessories (e.g., glasses). Each dataset consists of a left and a right scan and a combination of the two scans (a 2-POD 3Q scanner was used). Each scan has both 2D and 3D data.
- UHCBL DB11 Database (<http://cbl.uh.edu/URxD/datasets/>). To analyze the impact of the variation in both pose and lighting, we acquired data from 23 subjects under six illumination conditions. We

asked the subject to face four points for each illumination condition inside the room. This generated rotations on the Y-axis. For each rotation on Y, we also acquired three images with rotations on the Z-axis (assuming that the Z-axis goes from the back of the head to the nose and that the Y-axis is the vertical axis through the subject's head). Thus, we acquired images under six illumination conditions, 4 Y rotations, and 3 Z rotations per subject. We have 72 pose/light variations per subject for 23 subjects. Each capture consists of both a 2D image captured using a CanonTM DSLR camera and a 3D mesh captured by 3dMDTM 2-pod optical 3D system.

- UHCBL DB12 Database (<http://cbl.uh.edu/URxD/datasets/>). The 3D data were captured by a 3dMDTM two-pod optical scanner, while the 2D data were captured by a commercial Canon(TM) DSLR camera. The system has six diffuse lights that allow the variation of the lighting conditions. For each subject, a single 3D scan (and the associated 2D texture) is used as a gallery dataset, and several 2D images are used as probe datasets. All 2D images have one of the six possible lighting conditions. There are 26 subjects, resulting in 26 gallery datasets (3D plus 2D) and 800 probe datasets (2D only).
- UHCBL DB14 Database, This database includes both 3D+2D and 2D video data of each subject. It consists of 20 subjects. The data was gathered with a 2-POD scanner plus a DSLR. 2D video data was acquired with a resolution of 1280x720.
- UHCBL DB15 Database, 3D face dataset with 77 different subjects: 55 males, 22 females, 35 subjects with glasses. Each subject without glasses is scanned two times, and each subject with glasses is scanned four times, two times with glasses and two times without glasses. Each capture consists of a 3D mesh with a 2D texture file created with an iPadTM equipped with a Structure SensorTM.
- UHCBL DB30 Database, The UHDB30 dataset contains 3D facial scans and 2D images from 11 subjects captured in both indoor and outdoor scenarios. We generated six different indoor lighting conditions, including variations in the light direction, light intensity, and light color. In eight of the twenty-three captures acquired outdoors per subject, we imposed another lighting source other than the natural sunlight. Subjects were asked to face the camera to limit the pose variation for this dataset.
- UHCBL DB31-BEST 24 Database, Delivered with the BEST project completion. Includes the current 21-pod captures with 2D-3D data and annotations.