Hassan Foroosh

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I. Technical Interests

Image/Video Sensing, Image/Video Processing, Image/Video Analysis, Multi-dimension Signals and Stochastic Processes, Statistical Inference
Recent research focus: Sparse sampling, Harmonic analysis, and optimization.

II. Education

- Doctor of Philosophy – Computer Science
  INRIA, University of Nice Sophia Antipolis, 1996
  Dissertation: *Super-Resolution in Computer Vision*

- Master of Science – Computer Science
  University of Nice Sophia Antipolis, 1993
  Dissertation: *High-Resolution Reconstruction of Albedo and Height*

- Master of Science – Electrical Engineering
  Kingston University, U.K., 1990
  Emphasis: *Digital Computer Systems*

- Bachelor of Science – Electrical Engineering with High Honors
  Kingston University – U.K., 1989

III. Professional Experience

2002 – Present: University of Central Florida – Orlando, Florida

Department of Electrical Engineering and Computer Science

- *Associate Professor of Computer Science*: 2008 – present
- *Assistant Professor of Computer Science*: 2002 – 2007
- Graduate Program Coordinator, Computer Science Division: 2010 – present
- *Joint Appointment,* Institute for Simulation and Training (IST): 2008 – present
- *Joint Appointment,* Computer Engineering Program: 2003 – present

Principal Investigator (PI) or co-PI for research totaling ~$9M of which over 95% was from federally-sponsored projects including the *National Science Foundation (NSF)*, *NASA*, the *Office of Naval Research (ONR), and the Defense Intelligence Agency*. Graduated 10 Masters and 7 Ph.D. students. Three of these graduates have secured full-time faculty positions, and others have secured research positions in either national laboratories or major market leader companies. Taught 8 different courses, developed 2 new courses, and implemented major revisions for 3 courses in the last 8 years.

Currently serving as the Director of the Graduate Program in the Computer Science Division of the Department of EECS. Currently serving as the Associate Editor of the IEEE Transactions on Image Processing. Currently, serving as a voting member in the IEEE Multimedia Communications Technical Committee (MMTC). Holding a joint appointment in Computer Engineering, Modeling and Simulation, and the Institute for Simulation and Training. Served as the Chair of the Undergraduate Committee and the Chair of the Curriculum Oversight and Review Committee and the ABET assessment for the Computer Science Division. Served as member of the College of Engineering and Computer Science (CECS) Computing Committee, CECS ABET Committee, and in the Academic committee for Modeling and Simulation Program. Served on the Editorial Board of IEEE Transactions on Image Processing (2003-2008).

Received the *Research Initiative Award (RIA)*, the Florida *Teaching Incentive Program (TIP) Award*, *The Piero Zamperoni Award of IAPR (2004)*, Several Best Paper Awards, *Distinguished Researcher of the College of Engineering and Computer Science in 2006, Distinguished Researcher of the School of Electrical Engineering and Computer Science in 2005, and won the Outstanding Dissertation Award of CECS for my first PhD student at UCF (runner up at the university level).*

2000-2002: University of California, Berkeley – Berkeley, California

Senior Research Scientist

Served as the Technical Coordinator of a Multi-University Research Initiative (MURI) funded by the Office of Naval research. Also, principal research scientist on the same project. Conducted research in multi-sensor acquisition of data for autonomous 3D modeling and visualization of dynamic scenes and urban environments. Developed sensor fusion models and computation approaches for electro-optical imaging, laser scanners, inertial navigation systems, aerial and satellite imagery, and LIDAR data. Conducted research on photo-realistic modeling and visualization of dynamic scenes for simulation and training.

1997 – 2000: University of Maryland, College Park – College Park, Maryland

Assistant Research Scientist (Assistant Research Professor), Center for Automation Research (CfAR) and the University of Maryland Institute for Advanced Computer Studies (UMIACS)

Research scientist on a MURI project, funded by the Office of Naval Research. Conducted research on super-resolution of video data, Synthetic Aperture Radar (SAR), and Foliage Penetrating (FOPEN) SAR images, blind equalization of video data, inverse diffusion techniques, image registration, video stabilization, target detection, and tracking in video and infrared sequences. Working on various sensory systems including electro-optical (EO), infrared (IR), and SAR.

1993 – 1996: INRIA, Sophia Antipolis, France (French National Institute for Research on Informatics and Control)

Research Assistant, in the Scene Analysis and Symbolic Image Processing Group

Research on super-resolution, modeling reflectance maps and physics of the imaging process for shape perception from remotely sensed data, Bayesian estimation of high-resolution 3D data, registration, sampling theory and optimization techniques. Work applied to multi-spectral satellite images of the European SPOT satellite and airborne electro-optical data. Work involved direct collaboration with the French National Space Agency (CNES). Two main software methods on super-resolution and registration of multi-spectral satellite images were patented and transferred to CNES.

1990 – 1992: Innovative Engineering Solutions Ltd., London, U.K.

R&D Engineer

Designed and developed a new generation of product lines for distributed networked security and safety systems.

IV. Research Activities

A. Funded Research Projects

Funding as PI or co-PI ~$9M

- 100% continuous funding
- 95% federally-sponsored projects
- Continuous collaborative interdisciplinary funding with co-PIs from CREOL, IST, FSI, UCF Psychology Department, and other universities
- All sole-PI projects are 100% credit

1. *Adaptive Compressed Entropy Sensing*, Defense Intelligence Agency (DIA) / Naval Postgraduate School (NPS), PI, Credit: 100%, $182,985, 2013-2014.
2. *Super-Resolution of Compressive Hyperspectral Imaging*, Florida Space Research Initiative, Sole-PI, Credit: 100%, $48,632, 2013-2014.
3. *RI: Large: Collaborative Research: Reconstructive Recognition - Uniting statistical scene understanding and physics-based visual reasoning*, National Science Foundation (NSF), PI, Credit: 100%, $545,545, 2012-2017.
4. *RI: Small: Learning-Based Systems for Single-Image Photometric Reconstruction*, National Science Foundation (NSF), PI, Credit: 100%, $363,005, 2010-2014.
5. *Global-scale Observations of the Limb and the Disc*, NASA, Stand-Alone Mission of Opportunity, Co-PI, Credit: 12% = $7.6M (Total Grant: $63M), 2013-2020.
   - This is the largest single grant in the history of UCF. Also, the first stand-alone mission granted by NASA to a state university. The goal of this project is to develop hardware/software for investigating magnetic storms caused by the sun using a dual channel ultraviolet imaging system in a geostationary satellite.
6. *Airborne Multisensor Visual Data Processing*, Jackson Technologies, Inc. PI, Credit: 100%, $48,623, 2012-2014.
7. *Rapid Automated 3D Terrain Modeling from Airborne Data*, Florida High Tech Corridor, PI, Credit: 100%, $30,000, 2013-2014.
8. *Global-scale Observations of the Limb and the Disc (GOLD-SALMON)*, NASA, concept study phase, Co-PI, $342,500, 2012-2013.
   - The concept study phase for GOLD mission.
9. *Networked Immersive Technologies for Simulation and Training*, ProActive Technologies, Inc., PI, Credit: 100%, $40,000, 2012-2014.
10. *Seeing Through with Augmented Reality*, Florida High Tech Corridor, PI, Credit: 100%, $13,333, 2012-2013.
11. *SMEX: GOLD Imager*, NASA, concept study phase, Co-PI, ~ $246,450, 2008-2010.

- The goal of this project is to design and develop an ultraviolet imaging system and the supporting instruments that would be launched in a geostationary orbit for investigating magnetic storms.

12. *Global-scale Observations of Limb and Disc (GOLD)*, NASA, extension to phase A, ~ $499,989, Co-PI, 2008-2009.
    - The goal of this project is to develop algorithms for analysis of magnetic storms caused by the sun in images obtained by a two-channel ultraviolet system in a geostationary satellite.

13. Modeling and Tracking Human Activities in Sport Events, Electronic Arts – Tiburon, $30,000, PI, Credit: 100%, 2008-2009.
    - The goal of this project is to develop algorithms for tracking and recognition of human activities in sports events, and construct the statistics of players' performance.

14. VAST: Video Analysis for Sports Training, FHTC, $15,000, PI, Credit: 100%, 2008-2009.
    - The goal of this project was to develop algorithms for summarizing the statistics of players performance in a sport event by analyzing video data.

15. *Rapid Terrain Modeling for Synthetic Environments*, Florida High-Tech Corridor, $13,400, PI, Credit: 100%, 2007-2008
    - This project developed algorithms for modeling and rendering terrains using laser scanning and video data.

16. *Network of Surveillance Cameras with Active Zoom and Dynamic Topology*, National Science Foundation (NSF), $100,000, PI, Credit: 100%, 2006-2008
    - This project developed algorithms for camera autocalibration and pose estimation with non-overlapping fields of view.

17. *Global-scale Observations of Limb and Disc (GOLD)*, NASA, phase A funded for $999,707, Co-PI, 2006-2007.
    - The goal of this project is to perform a concept study for developing methods and algorithms to be used for analysis of magnetic storms caused by the sun using images obtained by a two-channel ultraviolet system in a geostationary satellite.

18. *Reconfigurable Network of Cameras*, I2Lab Matching funds, $5,000, PI, Credit: 100%, 2006-2007
    - This project developed algorithms for camera autocalibration of a camera network for wide area surveillance.

19. *Video Analysis Techniques for Terrain Modeling and Automated Texture Mapping,* Electronic Arts – Tiburon, $20,000, PI, Credit: 100%, 2006-2007
    - This project developed algorithms for modeling and visualization of natural terrains using laser scanning and video data.

20. *Modeling and Visualization of Musculoskeletal Structures in Dental CT-Scan*, Imaging Sciences International, Inc., $14,000, PI, Credit: 100%, 2006-2007
    - This project developed algorithms for 3D modeling and visualization of maxilla and mandible of patients of dental surgery using Computer Aided Tomography (CAT) scanning.

21. *Intravascular Photonics Catheter Design,* Florida Photonic Center of Excellence, $31,164 Co-PI, 2005-2006
    - This project developed a miniaturized catheter for intravascular imaging and analysis of risks of stroke and heart diseases.

22. *Intravascular Photonics Catheter Design,* Florida Photonic Center of Excellence, $31,695 Co-PI, 2005-2006
    - This project developed a miniaturized catheter for intravascular imaging and analysis of risks of stroke and heart diseases.

23. *Intravascular Photonics Catheter Design,* Florida Photonic Center of Excellence, $118,836 Co-PI, 2004-2005
    - This project developed a miniaturized catheter for intravascular imaging and analysis of risks of stroke and heart diseases.

24. *Intravascular Photonics Catheter Design,* Florida Photonic Center of Excellence, $18,305 Co-PI, 2004-2005
    - This project developed a miniaturized catheter for intravascular imaging and analysis of risks of stroke and heart diseases.

25. *Mixed Reality Anytime Anywhere*, DURIP, Office of Naval Research, $351,000, Co-PI, 2004-2005
    - The purpose of this project was laboratory enhancement for research and education in the areas of augmented and mixed reality.

26. *Expression Morphing for Photo- Realistic Image Based Simulation of Human Faces*, Academic Excellence Grant, Sun Micro Systems, $138,000, PI, Credit: 100%, 2004-2005
    - The purpose of this project was laboratory enhancement for research and education in the areas of image based modeling and rendering.

27. *A Program of Research and Education on Visual Simulation of Real World*, Sun Micro Systems, $55,000, PI, Credit: 100%, 2003-2004
    - The purpose of this project was establishment of a laboratory for research and education in the areas of image based modeling and visual simulation.

28. *Improved Tracking for Scientific and Creative Research in Mixed Reality*, $27,000, Co PI, UCF Presidential Equipment Award, 2003-2004
    - The purpose of this project was laboratory enhancement for research and education in the areas of augmented and mixed reality, with focus on tracking technologies.

B. Peer Reviewed Journal Publications

1. Nazim Ashraf, Yuping Shen, Xiaochun Cao, and Hassan Foroosh, *View-Invariant Action recognition using Weighted Fundamental Ratios*, Journal of Computer Vision and Image Understanding (CVIU), vol. 117, pp. 587-602, 2013.

2. Imran N. Junejo, Adeel Bhutta, and Hassan Foroosh, *Single-Class SVM for Dynamic Scene Modeling*, Signal Image and Video Processing, Vvol. 7, issue 1, pp 45-52, 2013.

3. Chuan Sun, Imran Junejo, Hassan Foroosh, Motion Sequence Volume based Retrieval for 3D Captured Data, Computer Graphics Forum, vol. 30, issue 7, pp. 1953-1962, 2012.

4. Imran Junejo and Hassan Foroosh, *Optimizing PTZ Camera Calibration From Two Images*, Machine Vision and Applications (MVA), pp. 1-15, February 2011.

5. Imran Junejo and Hassan Foroosh, *GPS Coordinates Estimation and Camera Calibration from Solar Shadows*, Computer Vision and Image Understanding (CVIU), vol. 114, issue 9, pp. 991-1003, 2010.

6. Lin Wu, Xiaochun Cao, and Hassan Foroosh, Camera Calibration and Geo-Location Estimation from Two Shadow Trajectories, Computer Vision and Image Understanding (CVIU), vol. 114, pp. 915-927, 2010.

7. Yuping Shen and Hassan Foroosh, *View-invariant Action Recognition from Point Triplets*, IEEE Transactions on Pattern Analysis and Machine Intelligence (PAMI), vol. 31, no. 10, pp. 1898-1905, 2009.

8. Xiaochun Cao, Lin Wu, Jiangjian Xiao, Hassan Foroosh, Jigui Zhu, and Xiaohong Li, *Video Synchronization and Its Application on Object Transfer*, Image and Vision Computing (IVC), vol. 28, issue 1, pages 92-100, 2009.

9. I. Junejo, and H. Foroosh, *Euclidean path modeling for video surveillance*, Image and Vision Computing (IVC), Volume 26, Issue 4, Pages 512-528, 2008.

10. O. Cakmakci, S. Vo, H. Foroosh, and J.P. Rolland, *Application of Radial Basis Functions to Shape Description in a Dual-Element Off-Axis Magnifier*, Optics Letters, Vol. 33, Issue 11, pp. 1237-1239, 2008.

11. O. Cakmakci, B. Moore, H. Foroosh, and J.P. Rolland. *Optimal Local Shape Description for Rotationally Non-Symmetric Optical Surface Design and Analysis*, Optics Express, Vol. 16, Issue 3, pp. 1583-1589, 2008.

12. M. Alnasser and H. Foroosh, *Phase Shifting for Non-Separable 2D Haar Wavelets*, IEEE Transactions on Image Processing, vol. 16, pp. 1061-1068, 2008.

13. I. Junejo, X. Cao, and H. Foroosh, *Auto-Configuration of a Dynamic Non-Overlapping Camera Network*, IEEE Trans. Systems, Man, and Cybernetics, vol. 37, no. 4, pages 803-816, 2007.

14. X. Cao and H. Foroosh, *Camera Calibration and Light Source Orientation from Solar Shadows*, Journal of Computer Vision & Image Understanding (CVIU), vol. 105, pages 60-72, 2007.

15. X. Cao, H. Foroosh, *Camera Calibration Using Symmetric Objects*, IEEE Transactions on Image Processing, Volume 15, Issue 11, Pages: 3614 – 3619, 2006.

16. X. Cao, J. Xiao, and H. Foroosh, M. Shah, *Self-Calibration from Turn Table Sequence in Presence of Zoom and Focus*, Computer Vision and Image Understanding (CVIU), 102(3):227-237, June 2006.

17. Murat Balci and H. Foroosh, *Sub-Pixel Estimation of Shifts Directly in the Fourier Domain*, IEEE Trans. Image Processing, vol. 15, no. 7, pages 1965-1972, 2006.

18. Murat Balci and H. Foroosh, *Sub-Pixel Registration Directly From Phase Difference*, Journal of Applied Signal Processing, special issue on Super-resolution Imaging, vol. 2006, pages 1-11, 2006.

19. X. Cao, Y. Shen, M. Shah, and H. Foroosh, *Single View Compositing with Shadows*, The Visual Computer, Volume 21, Numbers 8-10, pages 639-648, 2005

20. H. Foroosh, *Pixelwise Adaptive Dense Optical Flow Assuming Non-stationary Statistics*, IEEE Trans. Image Processing, February, vol. 14, issue 2, pages 222-230, 2005;

21. H. Foroosh (Shekarforoush), J. Zerubia and M. Berthod, *Extension of Phase Correlation to Sub-pixel Registration*, IEEE Trans. Image Processing, vol. 11, Issue 3, pp. 188-200, 2002.

22. H. Shekarforoush (Foroosh), *Noise Suppression by Removing Singularities*, IEEE Trans. Signal Processing, vol. 48, Issue 7, pp. 2175-2179, 2000;

23. H. Shekarforoush (Foroosh) and R. Chellappa, *Data-Driven Multi-channel Super-resolution with Application to Video Sequences*, Journal of Optical Society of America-A, vol. 16, no. 3, pp. 481-492, 1999.

24. H. Shekarforoush (Foroosh), M. Berthod, M. Werman and J. Zerubia, *Subpixel Bayesian Estimation of Albedo and Height*, International Journal of Computer Vision, vol. 19, no.3, pp. 289-300, 1996.

C. Peer Reviewed Conference Publications [% acceptance]

Major Conferences: CVPR **[5%]**, ECCV **[6%]**, ICCV **[6%]**, ICPR **[15%]**, ICIP **[20%]**, ACCV **[20%]**, and other major IEEE, or IAPR conferences.

All above noted conferences have [Acceptance rates] substantially lower than even the highest impact journals. In Computer Science the impact of these conferences are accepted as equivalent or better than journals.

1. P. Jotwani, A. Suri, B. Baby, V.K. Srivastav, S. Banerjee, P. Kalra, S. Kumar, S. Prasad, K. Paul, H. Foroosh, R. Singh, M. Tripathi, R.C. Deo, T.S. Roy, S. Lalwani, B.S. Sharma, *Computerized Evaluation versus Apprenticeship Method-based Evaluation: Effectualness of Micro-suturing in Neurosurgery Skills Training*, Annual Conf. of the American Association of Neuro-Surgeons, CNS Section on Disorders of the Spine and Peripheral Nerves, 2014.

2. Amara Tariq, Asim Karim, Fernando Gomez, Hassan Foroosh, *Exploiting Topical Perceptions over Multi-Lingual Text for Hashtag Suggestion on Twitter*, FLAIRS Conference 2013

3. Nazim Ashraf, Chuan Sun, Hassan Foroosh, *Motion Retrival using Low-Rank Decomposition of Fundamental Ratios*, Proc. IEEE International Conference on Image Processing (ICIP), pp. 1905-1908, 2012.

4. Nazim Ashraf, Hassan Foroosh, *Human Action Recognition in Video Data Using Invariant Characteristic Vectors*, Proc. IEEE International Conference on Image Processing (ICIP), pp. 1385-1388, 2012.

5. Chuan Sun, Imran Junejo, and Hassan Foroosh, *Action Recognition using Rank-1 Approximation of Joint Self-Similarity Volume*, International Conference on Computer Vision (ICCV), pp. 1007-1012, 2012.

6. Chuan Sun, Imran Junejo, Hassan Foroosh, Motion Sequence Volume based Retrieval for 3D Captured Data, Pacific Graphics, 2011.

7. Adeel Bhutta, Imran Junejo, and Hassan Foroosh, *Selective Subtraction When The Scene Cannot be Learned*, Proc. IEEE International Conference on Image Processing (ICIP), pp. 3330-3333, 2011.

8. Imran Junejo, Adeel Bhutta, and Hassan Foroosh, *Dynamic Scene Modeling for Object Detection Using Single-Class SVM*, Proc. IEEE International Conference on Image Processing (ICIP), pp. 1541-1544, 2010.

9. Nazim Ashraf, Yuping Shen and Hassan Foroosh, *View-Invariant Action Recognition Using Rank Constraint*, Proc. of International Conference on Pattern Recognition (ICPR), pp. 3611-3614, 2010.

10. Yuping Shen and Hassan Foroosh, *View Invariant Action Recognition Using Fundamental Ratios*, Proc. IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2008

11. Yuping Shen and Hassan Foroosh, *View Invariant Recognition of Body Pose from Space-Time Templates*, Proc. IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2008

12. Imran N. Junejo and Hassan Foroosh, *Estimating Geo-Temporal Location of Stationary Cameras Using Shadow Trajectories*, European Conference on Computer Vision (ECCV), 2008.

13. Yuping Shen, Nazim Ashraf, and Hassan Foroosh, *Action Recognition based on Homography Constraints*, International Conference on Pattern Recognition (ICPR), 2008. **(Best Scientific Paper Award)**

14. Imran N. Junejo and Hassan Foroosh, *Practical Pure Pan and Pure Tilt Camera Calibration*, International Conference on Pattern Recognition (ICPR), 2008.

15. Imran N. Junejo and Hassan Foroosh, *Refining PTZ Camera Calibration*, International Conference on Pattern Recognition (ICPR), 2008.

16. Imran N. Junejo and Hassan Foroosh, *GPS Coordinate Estimation from Calibrated Cameras*, International Conference on Pattern Recognition (ICPR), 2008.

17. Nazim Ashraf and Hassan Foroosh, Robust *Auto-Calibration of a PTZ Camera with Non-overlapping FOV*, International Conference on Pattern Recognition (ICPR), 2008.

18. Imran Junejo and Hassan Foroosh, *Using Solar Shadow Trajectories for Camera Calibration*, Proc. IEEE International Conference on Image Processing (ICIP), 2008

19. Imran Junejo and Hassan Foroosh, *Practical PTZ Camera Calibration Using Givens Rotations*, Proc. IEEE International Conference on Image Processing (ICIP), 2008.

20. Supraja Murali, Apurva Jain, Kye-sung Lee, Panomsak Meemon, Hassan Foroosh, Kevin Thompson, and Jannick Rolland, *Super-resolution imaging combining the design of an optical coherence microscope objective with liquid-lens based dynamic focusing capability and computational methods*, Proc. of SPIE Conf. on Novel Optical Systems Design and Optimization XI, SPIE Vol. 7061, 2008.

21. Ozan Cakmakci, Gregory E. Fasshauer, Hassan Foroosh, Kevin P. Thompson, and Jannick P. Rolland, *Meshfree Approximation Methods for Free-Form Surface Representation in Optical Design with Applications to Head-Worn Displays*, Proc. SPIE Conf. on Novel Optical Systems Design and Optimization XI, vol. 7061, 2008.

22. I. Junejo, and H. Foroosh, *Trajectory Rectification and Path Modeling for Surveillance*, International Conference on Computer Vision (ICCV), pages 1-7, 2007.

23. I. Junejo, and H. Foroosh, *Euclidean Path Modeling from Ground and Aerial Views*, VS 2007, with Proceedings of IEEE CVPR, pages 1-6, 2007.

24. N. Ashraf, I. Junejo, and H. Foroosh, *Near-Optimal Mosaic Selection for Rotating and Zooming Video Cameras*, Proc. of Asian Conference on Computer Vision (ACCV), Vol. II, 63-72, 2007.

25. I. Junejo, N. Ashraf, Y.P. Shen, and H. Foroosh, *Robust Auto-Calibration Using Fundamental Matrices Induced by Pedestrians*, Proceedings of IEEE International Conference on Image Processing (ICIP), Vol. III, 201-204, 2007.

26. I. Junejo, and H. Foroosh, *Using Calibrated Camera for Euclidean Path Modeling*, Proceedings of IEEE International Conference on Image Processing (ICIP), Vol. III, 205-208, 2007.

27. I. Junejo, and H. Foroosh, *Dissecting the Image of the Absolute Conic*, Proceedings of IEEE International Conference on Advanced Video and Signal-based Surveillance, pages 77-82, 2006. (acceptance rate 16%)

28. I. Junejo, X. Cao, and H. Foroosh, *Geometry of a Non-Overlapping Multi-Camera Network*, Proceedings of IEEE International Conference on Advanced Video and Signal-based Surveillance, pages 43-48, 2006. (acceptance rate 16%)

29. I. Junejo, and H. Foroosh, *Robust Auto-Calibration from Pedestrians*, Proceedings of IEEE International Conference on Advanced Video and Signal-based Surveillance, pages 92-97, 2006.

30. I. Junejo, X. Cao, and H. Foroosh, *Calibrating Freely Moving Cameras*, Proceedings of IAPR International Conference on Pattern Recognition (ICPR), vol. 4, pages 880-883, 2006.

31. I. Junejo, X. Cao, and H. Foroosh, *Configuring Mixed Reality Environment*, Proceedings of IAPR International Conference on Pattern Recognition (ICPR), vol. 4, pages 884-887, 2006.

32. F. Lu, X. Cao, Y. Shen, and H. Foroosh, *Camera Calibration from Two Shadow Trajectories*, Proceedings of IAPR International Conference on Pattern Recognition (ICPR), vol. 2, pages 1-4, 2006.

33. X. Cao, J. Xiao, and H. Foroosh, *Self-Calibration Using Constant Camera Motion*, Proceedings of IAPR International Conference on Pattern Recognition (ICPR), vol. 1, pages 595-598, 2006.

34. X. Cao, J. Xiao, and H. Foroosh, *Camera Motion Quantification and Alignment*, Proceedings of IAPR International Conference on Pattern Recognition (ICPR), vol. 2, pages 13-16, 2006.

35. Y. Shen, F. Lu, X. Cao, and H. Foroosh, *Video Completion for Perspective Camera Under Constrained Motion*, Proceedings of IAPR International Conference on Pattern Recognition (ICPR), vol. 3, pages 63-66, 2006.

36. X. Cao, and H. Foroosh, *Synthesizing Reflections of Inserted Objects*, Proceedings of IAPR International Conference on Pattern Recognition (ICPR), vol. 2, 1225-1228, 2006.

37. M. Balci, M. Alnasser, and H. Foroosh, *Subpixel Alignment of MRI Data Under Cartesian and Log-Polar Sampling*, Proceedings of IAPR International Conference on Pattern Recognition (ICPR), vol.3, pages 607-610, 2006.

38. M. Alnasser, and H. Foroosh, *Image-Based Rendering of Synthetic Diffuse Objects*, Proceedings of IAPR International Conference on Pattern Recognition (ICPR), vol. 4, pages 787-790, 2006.

39. M. Alnasser, and H. Foroosh, *Rendering Synthetic Objects in Natural Scenes*, IEEE Proceedings of International Conference on Image Processing (ICIP), pages 493-496, 2006.

40. M. Balci, M. Alnasser, and H. Foroosh, *Image-Based Simulation of Gaseous Material*, Proceedings of IEEE International Conference on Image Processing (ICIP), pages 489-492, 2006.

41. M. Balci, M. Alnasser, and H. Foroosh, *Alignment of Maxillofacial CT Scans to Stone-Cast Models Using 3D Symmetry for Backscattering Artifact Reduction*, Proceedings of Medical Image Understanding and Analysis Conference, 2006.

42. Jiangjian Xiao, Xiaochun Cao, and Hassan Foroosh, *3D Object Transfer Between Non-Overlapping Videos*, Proceedings of IEEE Virtual Reality Conference, pages 127-134, March 25-29, 2006. (acceptance rate ~20%)

43. Murat Balci and Hassan Foroosh, *Real-time 3D Fire Simulation Using a Spring-Mass Model*, Proc. of International Multimedia Modeling Conference, pages 108-115, 2006. (acceptance rate 22%)

44. Xiaochun Cao, Jiangjian Xiao, and Hassan Foroosh, *A New Framework for Video Cut and Paste*, Proc. of International Multimedia Modeling Conference, pages 51-58, 2006. (acceptance rate 22%)

45. Adeel A. Bhutta and Hassan Foroosh, *Blind Blur Estimation Using Low Rank Approximation of Cepstrum*, vol. 1, Proceedings of ICIAR, pages 94-103, 2006.

46. R. Guha, D. Workman, H. Foroosh, A. Guha, M. Llewellyn, S. Pattanaik, *Experiences in Developing Objectives and Assessment Strategy for a Set of Core Courses in Computer Science Curriculum*, International Conference on Engineering Education, 2006.

47. Adeel A. Bhutta and Hassan Foroosh, *Blind Blur Estimation Using Low Rank Approximation of Cepstrum*, vol. 1, pages 94-103, 2006.

48. X. Cao, J. Xiao, M. Shah, and H. Foroosh, *Single View Compositing with Shadows*, Pacific Graphics, pages 639-648, 2005. (acceptance rate less than 14%)

49. M. Balci, H. Foroosh, *Estimating Sub-Pixel Shifts Directly From Phase Difference*, Proceedings of IEEE Int. Conf. on Image Processing (ICIP), Honorable Mention, vol. 1, pages 1057-1060, 2005. **(Best Paper Honorable Mention)**.

50. M. Balci, H. Foroosh, X. Cao, *Metrology in Uncalibrated Images Given One Vanishing Point*, Proceedings of IEEE Int. Conf. on Image Processing (ICIP), vol. 3, pages 361-364, 2005.

51. A. Bhutta and H. Foroosh, *On Combining Encryption for Multiple Data Streams*, Proc. Of IEEE International Multi Topic Conference, 2005.

52. M. Balci, H. Foroosh, *Inferring Motion from the Rank Constraint of the Phase Matrix*, Proceedings of IEEE International Conf. on Acoustic Speech & Signal Processing (ICASSP), Vol. II, pages 869-872, 2005. **(Best Paper Honorable Mention)**.

53. M. Balci, H. Foroosh, X. Cao, *Self-Calibrated Reconstruction of Partially Viewed Symmetric Objects*, Proceedings of IEEE International Conf. on Acoustic Speech & Signal Processing (ICASSP), 2005.

54. X. Cao and H. Foroosh, *Camera Calibration without Metric Information Using an Isosceles Trapezoid*, Proceedings of the IAPR International Conf. On Pattern Recognition (ICPR), Volume 1, pages 104-107, 2004. **(Best Paper Award)**

55. H. Foroosh and M. Balci, *Subpixel Registration and Estimation of Local Shifts Directly in the Fourier Domain*, Proceedings of IEEE International Conference on Image Processing (ICIP), Volume: 3, pages: 1915- 1918, 2004.

56. H. Foroosh, *An Adaptive Scheme for Estimating Motion*, Proceedings of IEEE International Conf. on Image Processing (ICIP), Volume 3, Pages:1831-1834, 2004.

57. T. Fu and H. Foroosh, *Expression Morphing from Distant Viewpoints*, Proceedings of IEEE International Conf. on Image Processing (ICIP), Volume: 5, page(s): 3519- 3522, 2004.

58. X. Cao and H. Foroosh, *Camera Calibration Without Metric Information Using 1D Objects*, Proceedings of IEEE International Conf. on Image Processing (ICIP), Volume 2, Pages: 1349 – 1352, 2004.

59. X. Cao and H. Foroosh, *Easy Camera Calibration Using Inter-Image Homographies*, IEEE CVPR, Image and Video Registration workshop, 2004.

60. X. Cao and H. Foroosh, *Metrology from Vertical Objects*, Proceedings of British Machine Vision Conference (BMVC), 2004. (Acceptance rate 33%)

61. H. Foroosh, *Adaptive Estimation of Motion Using Generalized Cross Validation*, IEEE CVPR International Workshop on Statistical & Computational Theory of Vision, 2003.

62. H. Foroosh, *A Closed-Form Solution For Optical Flow By Imposing Temporal Constraints*, Proceedings of International Conference on Image Processing (ICIP), vol. 3, pages 656-659, 2001.

63. C. Früh, J. Flynn, H. Foroosh, and A. Zakhor, *Fast 3D model generation for urban environments*, Workshop on the Convergence of Graphics, Vision, and Video (CGVV'01), Berkeley, March 2001

64. H. Shekarforoush (Foroosh) and R. Chellappa, *A Multi-fractal Formalism for Stabilization, Object Detection and Tracking in FLIR Sequences*, International Conference on Image Processing, vol. 3, pp. 78-81, 2000.

65. H. Shekarforoush (Foroosh) R. Chellappa, *A Multi-fractal Formalism For Stabilization And Activity Detection in FLIR Sequences*, Proc. Annual Federated Laboratory Symposium, vol. Advanced Sensors, February 2000.

66. H. Shekarforoush (Foroosh) and R. Chellappa, *Super-resolution for Multi-look SAR Imagery*, Proc. Annual Federated Laboratory Symposium, vol. Advanced Sensors, pp. 313-317, College Park, Feb. 1999.

67. H. Shekarforoush (Foroosh) and R. Chellappa, *Multi-channel Super-resolution for Video Sequences with Application to Airborne Video Data*, Proc. 10th Image and Multi-dimensional Digital Signal Processing Workshop, pp. 207-210, Alpbach, Austria, July 1998.

68. H. Shekarforoush (Foroosh) and R. Chellappa, *Blind Estimation of PSF for Out of Focus Video Data*, vol. 3, pp. 742-745, Proc. International Conference on Image Processing (ICIP), Chicago, Oct. 1998.

69. H. Shekarforoush (Foroosh), J. Zerubia and M. Berthod, *Denoising by Extracting Fractional Order Singularities*, Proc. International Conference on Acoustics, Speech and Signal Processing (ICASSP), vol. 5, pp. 2889-2892, Seattle, May 1998.

70. A. Lorette, H. Shekarforoush (Foroosh) and J. Zerubia, *Super-resolution with Adaptive Regularization*, Proc. International Conference on Image Processing (ICIP), vol. 1, pp. 169-172, Santa Barbara, Oct. 1997.

71. A. Lorette, H. Shekarforoush (Foroosh) and J. Zerubia, *Prise en Compte des Discontinuités Dans un Algorithme de Super-résolution*, Proc. GRETSI, pp. 1217-1220, Grenoble, France, Sept. 1997.

72. H. Shekarforoush (Foroosh), M. Berthod, J. Zerubia, *A Generalization of the Non-linear Simplex Search Method*, 5th SIAM Conference on Optimization, 1996. (Acceptance rate 19%)

73. H. Shekarforoush (Foroosh), M. Berthod and J. Zerubia, *Subpixel Image Registration by Estimating the Polyphase Decomposition of the Cross Power Spectrum*, Proc. IEEE Conference on Computer Vision and Pattern Recognition (CVPR), pages 532-537, 1996.

74. H. Shekarforoush (Foroosh), M. Berthod and J. Zerubia, *3D Super-resolution Using Generalized Sampling Expansion*, Proc. International Conference on Image Processing (ICIP), vol. 2, pages. 300-303, Washington D.C., Oct. 1995.

75. H. Shekarforoush (Foroosh), M. Berthod and J. Zerubia, *Sub-pixel Reconstruction of a Variable Albedo Lambertian Surface*, Proc. British Machine Vision Conference (BMVC), vol. 1, pages. 307-316, Birmingham, U.K., Sept. 1995. (Acceptance rate 33%)

76. M. Berthod, H. Shekarforoush (Foroosh), M. Werman and J. Zerubia, *Reconstruction of High Resolution 3D Visual Information*, Proc. IEEE Conference on Computer Vision and Pattern Recognition (CVPR) , pages. 654-657, 1994.

D. Book Chapter

1. H. Foroosh and S. Hoge, *Motion Information in the Phase Domain*, in Video registration, Kluwer Academic Publishers, May 2003.

E. Other Publications

1. H. Shekarforoush (Foroosh), A. Banerjee and R. Chellappa, *Super-resolution for FOPEN SAR Images*, Proc. SPIE-International Society for Optical Engineering, vol. VIII, Orlando, pp. 129-135, April 1999.

2. H. Shekarforoush (Foroosh), *Conditioning Bounds for Multi-frame Super-resolution Algorithms*, CfAR Technical Report TR4001, UMD, 1999.

3. H. Shekarforoush (Foroosh) and R. Chellappa, *Adaptive Super-resolution for PREDATOR Video Sequences*, Proc. Image Understanding Workshop, vol. II, pp. 995-1001, Monterey, 1998.

4. H. Shekarforoush (Foroosh) and R. Chellappa, *Data-driven Multi-channel Super-resolution with Applications to Video Sequences*, CfAR Technical Report TR3898, UMD, 1998.

5. H. Shekarforoush (Foroosh), M. Berthod, and J. Zerubia, *Reconstruction of High Resolution 3D Visual Information*, INRIA Technical Report , 1996.

6. H. Shekarforoush (Foroosh), M. Berthod and J. Zerubia, *Subpixel Image Registration by Estimating the Polyphase Decomposition of the Cross Power Spectrum*, INRIA Technical Report, 1996.

7. H. Shekarforoush (Foroosh), M. Berthod, J. Zerubia, *A Generalization of the Non-linear Simplex Search Method*, INRIA Technical Report , 1996.

F. Articles Undergoing Review

1. Chuan Sun, Imran Junejo, Hassan Foroosh, *Exploring Sparseness and Self-Similarity for Action Recognition*, Computer Vision and Image Understanding (CVIU), submitted 2012.

2. Alam Abbas, Hassan Foroosh, A Recursive Agent-Based Adaptive Algorithm for Parameter Estimation of Closely Spaced Sinusoids, IEEE Transactions on Signal Processing, submitted 2013.

3. Alam Abbas, Hassan Foroosh, A Fast Agent Based Algorithm for Real Time Phasor Parameter Estimation, IEEE Transactions on Power Delivery, submitted 2013.

1. Nazim Ashraf, Hassan Foroosh, *View-Invariant Action Recognition Using Projective Depth*, Computer Vision and Image Understanding (CVIU), submitted 2013.

2. Lei Wang, Hassan Foroosh, Xiao Li, Beiji Zou, *Cartoon Face Parsing using Qualitative Spatial Representation and Constraint Programming*, 14th International Conference on Principles of Knowledge Representation and Reasoning, submitted 2013.

3. Chuan Sun, Hassan Foroosh, *Feature-Independent Action Spotting Without Human Localization, Segmentation or Frame-wise Tracking*, CVPR 2014, submitted 2013.

G. Literature Citations

- Recent Google Scholar h-Index: 23
- Excluding self-citations, my publications have been cited in premier journals including:
  - *IEEE Transactions on Pattern Analysis and Machine Intelligence* (#1 journal in Computer Vision)
  - *IEEE Transactions on Image Processing* (#1 journal in Image Processing)
  - *IEEE Transactions on Systems, Man, and Cybernetics*
  - *IEEE Transactions on Circuits and Systems for Video Technology*
  - *Computer Vision and Image Understanding* (Ranked as #2 journal in Computer Vision)
  - *International Journal of Computer Vision* (Ranked also as the #2 journal in Computer Vision)
  - *Journal of Vision and Image Computing*
  - *Journal of Mathematical Imaging and Vision*
  - *Pattern Recognition*
  - *Pattern Recognition Letters*
  - *Optics Express* (#1 journal in Optics)
  - *Optics Letters* (also considered as #1 journal in Optics)
  - *Journal of the Optical Society of America-A*

  in addition to other journals, conference proceedings, and workshops.

H. Patents and Invention Disclosures

1. *Hybrid Differential Compressive Sensing Imager*, Nabeel Riza and Hassan Foroosh, Provisional Patent Disclosure, 2010.
2. *Methods for Recognizing Pose and Action of Articulated Objects with Collection of Planes in Motion*, Yuping Shen and Hassan Foroosh, 2009
3. *Systems and Methods for Designing Optical Surfaces*, Patent pending, Ozan Cakmakci, Brendan Moore, Hassan Foroosh, and Jannick Rolland, 2007
4. *"SURPRISE"* (*SUper-Resolution de la Photometrie et de la Radiometrie des Images Satellites Entrelacees*), super-resolution of photometry and radiometry of interlaced satellite images, European Patent File, 1996.
5. *"PERSIA*: Phase-based Estimation and Registration for Subpixel Image Alignment: European Patent File, 1996.

I. Keynote Speeches and Invited Talks

Keynote Speech:

Keynote Speaker: Fifth Solar Image Processing Workshop, Invited by NASA Goddard "*Tracking and Predicting Solar Magnetohydrodynamic Activities: An Image Processing Perspective*" Switzerland, September 2010.

Image Registration Using Directional Local Holder Regularity, 34th Conference on Information Sciences and Systems, Princeton, March 2000.

Recent Invited Talks:

- *Invited Speaker: Technical University of Munich, "Adaptive Compressive Sensing", July 2011.*
- *Invited Speaker: View Invariance and Its Role in Estimating Pose, INRIA, Sophia Antipolis France, July 2009.*
- *Geo-temporal Localization without the GPS, Department of Electrical and Computer Engineering, University of Wisconsin Madison, March, 2008.*
- *Geo-temporal Localization from Solar Information, Department of Electrical & Computer Engineering, Purdue University, April, 2008.Image-Based Modeling and Rendering*, ACM Chapter, UCF, 2003.
- *3D Modeling and Simulation of Urban Environments*, Siemens Corporate Research (SCR), Princeton, NJ, 2001.
- *A PDE-based Approach to Inverse Image Diffusion*, Dept. of Electrical and Computer Engineering, Boston University, 2000.
- *Image Deblurring by Solving the Inverse Heat Equation*, Dept. of Electrical and Computer Engineering, University of Delaware, 2000.
- *A Stable Solution to Inverse Heat Equation*, Dept. of Electrical and Computer Engineering, University of Rochester, 2000.

J. Research Laboratory Leadership

- Founder and Director:
  Computational Imaging Laboratory – University of Central Florida, School of Electrical Engineering and Computer Science, http://cil.eecs.ucf.edu
- Faculty member:
  Media Convergence Laboratory – University of Central Florida, Institute for Simulation and Training, http://mcl.ucf.edu/
- Faculty member:
  Mixed and Virtual Reality Laboratory – University of Central Florida, School of Electrical Engineering and Computer Science

K. Interdisciplinary Research

- Collaborators:
  - Faculty and research staff of the Florida Space Institute (FSI). Research on the intersection of space physics and image processing.

    Has led to four federally funded projects by NASA, including the largest grant in the history of UCF, called GOLD.
  - Faculty and graduate students in the Institute for Simulation and Training (IST). Research on the intersection of Computer Vision and Augmented/Mixed Reality

Has led to one federally funded project by the Office of Naval Research (ONR) and two publications.

- Faculty and research staff of the Laboratory for Atmospheric and Space Physics (LASP), Colorado University at Boulder. Research on the intersection of Atmospheric and Space Sciences and image processing.

  Has led to four federally funded project by NASA.

- Faculty and graduate students in the College of Optics and Photonics (CREOL) at UCF. Research on the intersection of bio-medical imaging and space optics.

  Has led to federally funded projects by NASA and the State of Florida's Photonic Center of Excellence.

- Faculty and graduate students in the Institute for Computer Aided Medical Procedures and Augmented Reality, Technical University of Munich (TUM), Germany. Research on the intersection of Computer Vision and Augmented Reality in medical and surgical interventions.

  Ongoing recent activity.

- Faculty and graduate students in the French National Institute for Informatics and Control (INRIA). Research on the intersection of image processing and remote sensing.

  Has led to a summer faculty fellowship, and a joint publication under preparation.

L. Partnership with Industry

- Northrop Grumman
  - Collaboration on the theory and application of Compressive Sensing (exploring application to Joint STARS)
- Jackson Technologies
  - Collaboration on Rapid 3D Modeling from Airborne Multi-sensor Data (exploring application to both commercial and DoD)
- ProActive Technologies
  - Collaboration on Development of Networked Immersive Environments
- Electronic Arts (EA) - Tiburon, Orlando, FL:
  - Continuous funding of several projects since 2006
  - Internship of multiple graduate and undergraduate students and their co-advising with an industrial coordinator since 2005
- Object Video, Inc., Reston, VA:
  - Joint proposals since 2005
  - Internship of graduate students since 2005
  - Hired my first PhD student
- Advanced Micro Devices, ATI Division, Orlando, FL:
  - Several internship of graduate students since 2005

  - Hired three of my PhD students
- Harris Corporation, Melbourne, FL
  - Joint proposals since 2008
  - Joint advising of a PhD student
- Sun Micro Systems, CA
  - Funding of projects for laboratory enhancement and research since 2002
- Imaging Sciences International, Inc., PA
  - Funding of a project on Computer Aided Tomography (CAT) scanning, 2006

V. Teaching Activities

A. Courses Taught at UCF

Taught courses in lecture, recitation, and seminar-style formats at Undergraduate (CDA3xxx, EEL3xxx) and Graduate (CAP 5xxx, CAP 6xxx, EEL5xxx) levels with approximate [class size] as listed:

1. CAP6419: *3D Computer Vision* [20]
   - 2D/3D Projective Geometry, Estimation Methods, Camera Models, Camera Calibration, Stereo Vision
2. EEL3801: *Introduction to Computer Engineering with Laboratory* [180]
   - Digital Systems, Computer architecture, Assembly Language
3. CDA3103: *Computer Organization (Architecture)* [120]
   - Computer Organization, Computer Architecture, Assembly Language
4. CDA3103: *Computer Organization (Digital Design)* [120]
   - Digital Logic Design, Combinational Logic, Sequential Logic, State Machines
5. EEL5820: *Image Processing* [20]
   - Image Formation, Image Representation, Spatial Domain, Transform Domain, Fourier Transform, Wavelets, Image Coding, Compression, Color Image Models
6. CAP5419: *3D Computer Vision* [20]
   - 2D/3D Projective Geometry, Estimation Methods, Camera Models, Camera Calibration, Stereo Vision
7. EEL5771: *Engineering Applications of Computer Graphics* [40]
   - Graphics Systems, Geometric Objects, Transformations, Viewing, Lighting and Shading, Curves and Surfaces, OpenGL programming, Discrete Techniques
8. CAP5937: *Special Topics in 3D Computer Vision* [15]
   - Camera Models, Single View Metrology, Stereo Vision, Epipolar Geometry, Planes and surfaces, Autocalibration, Multilinear methods
9. CAP6835: *Visual Simulation* [20]
   - 3D Modeling, Photo-realistic Rendering, Image-Based Rendering, Light-Field Rendering,

Major revisions in three courses:

10. CDA3103: *Computer Organization* [120]
    - Revised and transitioned from a logic design course to an introductory course in architecture and organization, developed new material for this major revision
11. EEL3801: *Introduction to Computer Engineering* [180]
    - Merged EEL3801 and CDA3103 and developed new material for the revised course
12. CAP5419: *3D Computer Vision* [20]
    - Currently being revised to a 6000-level course and in Tegrity online format, which will integrate research with course content

B. Courses Taught at University of Maryland, College Park

Taught courses in lecture format at upper-level Undergraduate (ENEE-4xx) and Graduate (ENEE-6xx) levels, in the Department of Electrical and Computer Engineering with [class size] as listed:

1. ENEE-425: *Digital Signal Processing* [60]
   - Digital Systems, Computer architecture, Assembly Language

2. ENPM-603: *Advanced Digital Signal Processing* [60]
   - Computer Organization, Computer Architecture, Assembly Language

C. Curriculum Enhancement

- Course Development
  - University catalog additions: CAP 5419 and CAP6835 as sole developer
  - Curriculum development to support a new degree program in bioinformatics (program pending)
  - Curriculum development to support a new Professional Masters degree program (program pending due to budget)
- Laboratory Development
  - Obtained $544,000 in laboratory infrastructure grants as PI or Co-PI from federal sources and industry. Resources include network graphic servers, workstations, high-end long range laser scanning system, close-range laser scanning system, tracking systems, structured lighting system, various cameras including progressive scan, PTZ, Electro-Optical, and Infrared
  - Founder and Director: Computational Imaging Laboratory (CIL)
  - Faculty member and contributor to the Media Convergence Laboratory (MCL), Institute for Simulation and Training (IST)
  - Faculty member of the
  - Revised material for the labs of CDA3103, and EEL3801
- Assessment and Accreditation
  - Assessments of MS and PhD programs in CS as the Graduate Coordinator, since 2010.
  - Accreditation Coordinator for Accreditation Board for Engineering and Technology (ABET) for Computer Science
  - Initiated mapping of all Computer Science courses to IEEE/ACM Curriculum 2001, when chairing the Computer Science Undergraduate Committee
  - Chair of Computer Science Curriculum Oversight and Review Committee (CS CORC)
  - Member of Computer Engineering Curriculum Oversight and Review Committee (CpE CORC)
  - Member of the UCF Undergraduate Performance Assessment Committee (UPAC)
  - ABET course custodian for CDA3103/EEL3801, CAP5419, CAP6835

- Integration of Research and Teaching
  - All external funding have included strong educational components to advise graduate independent studies and inter-disciplinary research, and to introduce new material in the graduate and undergraduate curriculum
  - Mentored and advised students for the DARPA Grand Challenge for design and building of an autonomous vehicle including computer vision and laser scanning systems for navigation in a desert environment, 2005.
  - Mentored and advised students for the DARPA Urban Challenge for design and building of an autonomous vehicle including computer vision and laser scanning systems for navigation in a fake city environment, Team UCF, Knight Rider finished 7th, 2007.
  - Advised and mentored graduate and undergraduate students in partnership with local industry such as the Electronic Arts, Harris, and AMD/ATI involving internship placements for students, 2004-2009
  - Organized an I2Lab forum hosting several keynote speakers and a poster session for graduate or undergraduate research with over 100 student poster participation.
  - Provided oversight to student activities and awards in IEEE Workshop on Motion and Video Computing, 2002.
  - Provided oversight to student activities and awards in IEEE Workshop on Motion and Video Computing, IEEE Workshop on Applications of Computer Vision, 2002.

D. Post Doctoral Research Advised

Dr. Lei Wang:
- Visiting during December 2011- November 2012.
- Research on facial expression recognition and modeling using appearance based models.

Dr. Farshideh Einsele:
- Joined my group for a year from Fribourg University in Switzerland during 2008-2009.
- Research involved character and text extraction and recognition in natural scenes using Hidden Markov Models (HMM).
- Completed her post doctoral research under my supervision in summer 2009. Now, seeking an academic position in her home country, Switzerland.

E. Ph.D. Students Completed

Completed 6 Ph.D. students as Dissertation Chair and Advisor:
- Three now hold faculty positions
- Another three working full time research staff members with Advanced Micro Devices (AMD) in the ATI division
- Average time-to-degree was 4 years

1. Xiaochun Cao, Ph.D., *Multiple View Geometry for Video Analysis and Post-Production*, Doctor of Philosophy, Computer Science, University of Central Florida, Spring 2006.

   Dr. Cao was a Professor in Tianjin University, which is ranked in top 15 engineering schools in China. He is now with the Chinese Academy of Sciences. His dissertation won the Outstanding

Dissertation Award of the School of EECS and the College of Engineering and Computer Science (CECS) and was runner up at the university level.

2. Murat Balci, Ph.D. *Sub-pixel registration in computational imaging and applications to enhancement of maxillofacial CT data*, Doctor of Philosophy, Computer Science, University of Central Florida, Fall 2006.

   Dr. Balci was an engineering staff member at Advanced Micro Devices (AMD) in the ATI division. He is now an engineering staff member of Qualcom.

3. Imran N. Junejo, Ph.D., *Towards a Self-Calibrating Video Camera Network for Content Analysis and Forensics*, Doctor of Philosophy, Computer Science, University of Central Florida, Summer 2007.

   Dr. Junejo is now an Assistant Professor in Sharjah University, UAE.

4. Mais Alnasser, Ph.D., *Phase-Shifting Haar Wavelets for Image-Based Rendering Applications*, Doctor of Philosophy, Computer Science, University of Central Florida, Summer 2008.

   Dr. Alnasser is now an engineering staff member of Advanced Micro Devices (AMD) in the ATI division.

5. Yuping Shen, Ph.D., *Invariants in Computer Vision and Their Application in Human Gesture and Action Recognition*, Doctor of Philosophy, Computer Science, University of Central Florida, Fall 2009.

   Dr. Shen is now an engineering staff member of Advanced Micro Devices (AMD) in the ATI division.

6. Nazim Ashraf, Ph.D., *Study of Human Activity in Video Data with an emphasis on View-Invariance*, Doctor of Philosophy, Computer Science, University of Central Florida, Summer 2012.

   Dr. Ashraf is now an Assistant Professor in the Forman Christian College.

7. Ilhan Kaya, Ph.D., Hybrid Radial Basis Function and Local Φ-Polynomials for Freeform Optical Surface Descriptions, Doctor of Philosophy, Computer Engineering, University of Central Florida, Fall 2013.

F. MS Students Completed

Completed 8 M.S. students as Advisor, of which 5 continued and obtained their Ph.D. and one is currently working towards his Ph.D.:

1. Tao Fu, M.S., *Expression Morphing Between Different Orientations*, Master of Science, Computer Engineering, University of Central Florida, Summer 2004.

   Mr. Fu is now a Research Engineer in the North West National Laboratory.

2. Xiaochun Cao, *Easy Camera Calibration Techniques*, Independent Research for M.S. degree, Computer Science, University of Central Florida, Fall 2004.

   Mr. Cao continued to obtain his Ph.D. under my supervision.

3. Murat Balci, *Sub-pixel Image Alignment Techniques*, Independent Research for M.S. degree, Computer Science, University of Central Florida, Fall 2005.

   Mr. Balci continued to obtain his Ph.D. under my supervision.

4. Imran N. Junejo, *Self-Calibrating Camera Networks*, Independent Research for M.S. degree, Computer Science, University of Central Florida, Spring 2006.

   Mr. Junejo continued to obtain his Ph.D. under my supervision.

5. Mais Alnasser, Ph.D., *Closed Form Solutions to Image-Based Rendering*, Independent Research for M.S. degree, Computer Science, University of Central Florida, Spring 2007.

   Miss Alnasser continued to obtain her Ph.D. under my supervision.

6. Thomas Brendan Moore, Learning Geometry-Free Face Re-Lighting, Master of Science, Computer Science, University of Central Florida, Fall 2007.

7. Yuping Shen, *Video Compositing and Object Transfer Techniques*, Independent Research for M.S. degree, Computer Science, University of Central Florida, Fall 2008.

   Mr. Shen continued to obtain his Ph.D. under my supervision.

8. Nazim Ashraf, *Self-Calibration of Non-overlapping PTZ Cameras*, Independent Research for M.S. degree, Computer Science, University of Central Florida, Spring 2009.

   Mr. Ashraf is working towards his Ph.D. under my supervision.

9. Pramod Chakrapani, MS. student, Topic: 3D Modeling from Aerial video on a Moving platform.

10. Carl Messina, MS. student, Topic: Compressed Sampling Consensus; detection and localization of multiple structures in a high dimensional space by sampling a compressed set of points.

G. Graduate Research Exchange Students

1. Jean-Philippe Deraymond, *Facial Expression Recognition*, Visiting Ph.D. student from University of St. Etienne, France, February 2009 to July 2009.

2. Junqi Bai, *Character and Text Recognition in Video Data*, Visiting Ph.D. student from School of Electronic and Optical Engineering, Nanjing University, China, September 2009 to February 2010.

H. Current Graduate Students under Advisement

1. Chuan Sun, Ph.D. student, Topic: *View-Invariant Human Gesture and Action recognition in Video Data*, Graduation anticipated in Spring 2014.

2. Muhammad Ali, Ph.D. student, Topic: Manifold learning and its Application to Scene Text recognition, 2010.

3. Amara Tariq, Ph.D. student, Topic: Visual Semantics of Images, started in Fall 2011.

4. Vildan Atalay, Ph.D. student, Topic: Super Resolution and Compressive Sensing, started in Spring 2012.

5. Sarah Loewy, Ph.D. student, Topic: Multi-sensor 4D Modeling of Scenes from Moving Airborne Platforms, started Spring 2012.

6. Antony Stabile, PhD student, Topic: Compressive Sensing, Fall 2012.

7. Maryam Jaberi, Segmentation of Solar Imagery and Space Weather Forcast, Fall 2012.

8. Kristian Damkjer, Topic: Lidar data reduction and Compressive Sensing, Fall 2012.

9. Dustin Morley, Topic: Multiple Modality Eye Image registration for Laser Surgery, Spring 2013.

10. Alam Abbas, Topic: Demixing Non-Harmonic Signals at Arbitrarily Close Frequencies, Fall 2013.
11. Felix Fontan, Super-resolution of Hyperspectral Imagery, Fall 2013.
12. Baoyuan Liu, Probabilistic Label Trees for Large Scale Classification, Fall 2013.
13. Min Wang, Pattern Classification in Natural Scenes, Fall 2013.
14. Marjaneh Safaei, Ontology of Brain and Programming Languages, Spring 2013.
15. Pooyan Balouchian, Ontology of Brain and Programming Languages, Spring 2013.
16. Edward Aymerich, Appearance Modeling and Virtual Revamping, Fall 2013.
17. Brian Millikan, Context-Based Abnormal Activity Detection, Fall 2013.
18. Ilhan Kaya, Free-form Optical Shape Description, graduating Fall 2013.
19. Ajay Hardikar, MS. student, Hand Gesture Recognition for Human Computer Interface, started fall 2011.

I. Honors in Major Undergraduate Thesis Advisement

1. Steven Robertson, *Video Coding and Compression Using Curvelets and their Implementation on DSP*, started Fall 2009.
2. Christopher L. Kidwell, *The Ambient Sound Engine: A tool Built for Improving Interactive and Improvisational Performance*, Fall 2009

J. Student Recognition

- Yuping Shen and Nazim Ashraf, Best Scientific Paper Award, International Conference on Pattern Recognition, IAPR, Monetary amount $2000, 2008.
- Arun Kulshreshth, I2Lab Fellowship, monetary amount $25,000, 2005.
- Murat Balci, IEEE International Conference on Image Processing (ICIP), Best Paper Honorable Mention, IEEE Signal Processing Society, 2005.
- Murat Balci, IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP), Best Paper Honorable Mention, IEEE Signal Processing Society, 2005.
- Xiaochun Cao, Outstanding Dissertation Award of the College of Engineering and Computer Science, and runner up at the university level, UCF, 2005.
- Murat Balci, I2Lab Fellowship, monetary amount $25,000, 2005.
- Xiaochun Cao, Best Paper Award, International Conference on pattern recognition (ICPR), International Association for Pattern Recognition, Monetary amount $2000, 2004.

K. Dissertation and Thesis Committee Membership

- Ph.D. Dissertation Committees:

1. Hakan Boyraz, Human Action Localization and Recognition in Unconstrained Video, 2013.

2. Shenghong Zhang, PhD, Polymer Capacitive Micromachined Ultrasonic Transducer (CMUT), 2013.
3. Remo Pillat, PhD, Haptic Compliance Estimation in Bilateral Teleoperation, Fall 2013.
4. Alex Aved, PhD, Real-Time Queries Over Streaming Video, Spring 2013.
5. Nazar Khan, PhD Proposal/Defense, Discriminative Dictionary Learning with Spatial Constraints, Spring 2013.
6. Samuel Kegan, PhD Proposal/Defense, Gradient Based MRF Learning for Image Restoration and Segmentation, Fall 2012.
7. Syed Zain Masood, PhD Proposal/Defense, *Social Networks*, Fall 2012.
8. Jared Bott, PhD Proposal/Defense, *Understanding User Perceptions of Sketch Recognition*, EECS, Spring 2012.
9. Yugang Min, PhD Proposal/Defense, 4D CT Lung Registration and Its Application for Lung Radiation Therapy, Spring 2012.
10. William Junek, PhD Proposal/Defense, Forcasting Volcanic Activity Using an event Tree Analysis System and Logistic regression, Spring 2012.
11. Jared Johnson, PhD Proposal/Defense, Algorithms for Rendering Optimization, Spring 2012.
12. Nicolas Beato, PhD Proposal/Defense, Towards Real-Time Mixed Reality Matting in Natural Scenes, Fall 2011
13. Fahad Shah, PhD Proposal/Defense, Modeling Human Group Behaviors in Virtual Worlds, Fall 2011.
14. Panomsak Meemon, PhD, *Development of Optical Coherence Tomography for Tissue Diagnostics*, College of Optics and Photonics (CREOL), 2010.
15. Mark Colbert, PhD, *Appearance Driven Material Design*, School of Electrical Engineering and Computer Science, UCF, 2008.
16. Ozan Cakmakci, PhD, *Off-axis Optical Design and Application to Eyeglasses Displays*, College of Optics and Photonics (CREOL), 2008.
17. Kye-Sung Lee, *Extended Focusing Range High Resolution Endoscopic Optical Coherence Tomography*, College of Optics and Photonics (CREOL), 2008.
18. Musawir Shah, *Image Space Algorithms for Real-time Realistic Rendering*, PhD, School of Electrical Engineering and Computer Science, UCF, 2007.
19. Kevin Boulanger, *Real-time Realistic Rendering of Nature Scenes with Dynamic Lighting*, PhD, School of Electrical Engineering and Computer Science, UCF, 2007.
20. Ahmet Oguz Akyuz, *Optimizing the High Dynamic Range Imaging Pipeline*, PhD, School of Electrical Engineering and Computer Science, UCF, 2007.
21. Weifeng Sun, PhD, *Wavelets in Real-time Rendering*, School of Electrical Engineering and Computer Science, UCF, 2006.
22. Erum Arif Khan, PhD, Image Based Material Editing, School of Electrical Engineering and Computer Science, UCF, 2005.
23. Vivek Singh, PhD, *Contributions to Automatic Particle Identification in Electron Micrographs: Algorithms, Implementations, and Applications*, School of Computer Science, UCF, 2005.

24. Dahai Guo, PhD, Creating Geo-Specific Road Databases from Aerial Photos for Driving Simulation, Department of Electrical and Computer Engineering, 2005.

25. Abdelhalim M. Alsharqawi, Design and Synthesis of Clockless Pipelines Based on Self-Resetting Stage Logic, Department of Electrical and Computer Engineering, 2005.

- Master Thesis Committees:

1. David Sadat, MS thesis, *Numerical Simulation of a Capacitive Micromachined Ultrasonic Transducer with a Parylene Membrane and Graphene Electrodes*, MMAE, Spring 2012.
2. Travis Cossairt, MS thesis, *SetPad: A Sketch-Based Tool For Exploring Discrete Math Set Problems*, Spring 2012.
3. Brian M. Williamson, Master of Sciences, *REALNAV: Exploring Natural User Interfaces for Locomotion in Video Games*, School of Electrical Engineering and Computer Science, UCF, 2009.
4. Khudeja Shahbaz Khan, Master of Sciences, *Data Communication with a Nano-Satellite Using Satellite Personal Communication Networks*, Florida Space Institute, School of Electrical Engineering and Computer Science, UCF, 2008.
5. Khaled El-Said, *Biomodeling Of Congenital Cardiovascular Malformations: Feasibility And Assessment*, Dept. of Industrial Engineering and Management Systems, 2003.

- Honors in Major Thesis Committees:

1. Jesse Kelly, *GPU-Accelerated Simulation of Two-Phase Incompressible Fluid Flow using a Level-Set Method for Interface Capturing*, Dept. Mechanical, Materials, and Aerospace Engineering, UCF, 2009.
2. Christopher L. Kidwell, The Ambient Sound Engine: A tool Built for Improving Interactive and Improvisational Performance, School of EECS, UCF, 2009.
3. Steven Braeger, School of EECS, UCF, 2009.

L. Workshops Organized and Student Involvement

- Organized an I2Lab Forum, including a workshop of graduate and undergraduate research posters, with over 100 student poster presentations, and several keynote speakers from federal agencies and industry, 2006.
- Member of a committee that provided oversight to student activities and awards in the IEEE International Conference on Image Processing (ICIP), in 2007, and 2008.
- Engage every year my students in peer-reviews and organization of the conferences.

M. Independent Study Supervision

Number supervised at Graduate-Level: 87 enrollments (at 3 credit hours each)

Number supervised at Undergraduate-Level: 2 enrollments (at 1 credit hour each)

N. Teaching Evaluations

Averages evaluations for courses of 15-40 students at UCF during 2004 – 2008

Scale: “Excellent”=4, “Very Good”=3, “Good”=2, “Fair”=1, “Poor”=0

Course Evaluation Question	H. Foroosh	EECS	College
Feedback	2.940	2.867	2.829

Instructor Interested in learning	3.394	3.220	3.139
Use of Time	2.995	3.133	3.120
Organization	3.111	3.098	3.012
Continuity	3.410	3.247	3.161
Pace	3.305	2.902	2.904
Progress Assessment	3.153	2.843	2.802
Text/Materials	3.028	2.561	2.661
Describe Objectives	3.268	2.916	2.959
Communicate Ideas	3.268	3.072	2.971
Express Expectations	2.968	3.001	2.941
Available to Assist Students	3.028	3.164	2.936
Respect and Concern	3.154	3.347	4.075
Stimulate Interest	3.486	3.073	3.025
Facilitate Learning	3.048	2.991	2.957

Averages evaluations for very large courses of 120-180 students at UCF during 2004 – 2008
Scale: "Excellent"=4, "Very Good"=3, "Good"=2, "Fair"=1, "Poor"=0

Course Evaluation Question	H. Foroosh	EECS	College
Feedback	2.552	2.867	2.829
Instructor Interested in learning	2.980	3.220	3.139
Use of Time	2.803	3.133	3.120
Organization	2.874	3.098	3.012
Continuity	3.104	3.247	3.161
Pace	2.665	2.902	2.904
Progress Assessment	2.669	2.843	2.802
Text/Materials	2.492	2.561	2.661
Describe Objectives	2.653	2.916	2.959
Communicate Ideas	2.823	3.072	2.971
Express Expectations	2.703	3.001	2.941
Available to Assist Students	2.681	3.164	2.936
Respect and Concern	3.154	3.347	4.075
Stimulate Interest	2.752	3.073	3.025
Facilitate Learning	2.780	2.991	2.957

Teaching Evaluation Feedback from Free Response Section of course evaluation forms:

- "*Foroosh's positive attitude during his teaching is contagious*"
- "*The instructor's style of teaching was excellent and made it easy to grasp concepts*"
- "*Excellent lecturer…*"
- "*Excellent teacher! One who cares and communicates well. One who wants students to learn*"
- "*Knew what he was talking about and conveyed the material in a very clear way*"

- "*Teacher is nice and powerpoint lectures are nice*"
- "*Lots of examples in class*"
- "*Interesting and Challenging*"
- "*The examples we did in class from the book and past exams was the best way I grasped the material…Concrete examples really nailed down the material*"
- "*I loved the class*"; "*Intriguing professor*"

VI. Professional Service

A. International

- Editorial and Technical Committee Memberships:
  - Associate Editor – *IEEE Transactions on Image Processing* 2011 – present.
  - Associate Editor – *IEEE Transactions on Image Processing* 2003 – 2008.
  - Organizing Committee member of ACM Multimedia Conference, 2014.
  - Organizing Committee member and Local Chair of IEEE International Conference on Image Processing (ICIP), 2012.
  - Program Committee Member, ACIVS, 2008.
  - Member, technical committee for IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2004, 2005,2006, 2007, 2008, 2009, 2010, 2011.
  - Member, technical committee for International Conference on Computer Vision (ICCV), 2007, 2009.
  - Member, technical committee for IEEE International Conference on Image Processing, 2003, 2004, 2005,2006, 2007, 2008, 2009, 2010.
  - Member, technical committee for Asian Conference on Computer Vision (ACCV), 2007, 2008, 2009.
  - Member, technical committee for the European Signal Processing Conference (EUSIPCO), 2007, 2008, 2009.
  - Member, technical committee for European Conference on Computer Vision (ECCV), 2006, 2007, 2008.
  - Member, technical committee for International Conference on Advances on Pattern Recognition, 2005.
  - Member, technical committee for IEEE Int. Workshop on Image and Video Registration, 2004.
  - Member, committee for IEEE Workshop on Motion and Video Computing, 2002.
  - Member, committee for IEEE Workshop on Applications of Computer Vision, 2002.
  - Member, committee for IEEE Workshop on Stereo and Multi-baseline Vision, in conjunction with the IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2001.
  - Guest committee, 34th Annual Conference on Information Sciences and Systems, 2000.
- Technical Paper Reviewer/Referee for the following Journals:

  (multiple years of service: 1996 – present)
  - *IEEE Transactions on Pattern Analysis and Machine Intelligence*
  - *IEEE Transactions on Image Processing*
  - *IEEE Transactions on Systems, Man, and Cybernetics*
  - *IEEE Transactions on Circuits and Systems for Video Technology*

- *Computer Vision and Image Understanding* (Ranked as #2 journal in Computer Vision)
- *International Journal of Computer Vision* (Ranked also as the #2 journal in Computer Vision)
- *Journal of Vision and Image Computing*
- *Pattern Recognition*

- Technical Paper Reviewer/Referee for the following Conferences:

  (multiple years of service: 1996 – present)

  - *IEEE Conference on Computer Vision and Pattern Recognition*
  - *IEEE International Conference on Computer Vision*
  - *IEEE International Conference on Image Processing*
  - *IEEE International Conference on Acoustics, Speech, and Signal Processing*
  - *IEEE Virtual Reality Conference*
  - *IAPR International Conference on Pattern Recognition*
  - *European Conference on Computer Vision*
  - *British Machine Vision Conference*

- Conference Technical Session Chair and/or Organizer:
  - Organizing Committee Member of the IEEE International Conference on Image Processing, held in Orlando, Florida, in 2012.
  - Area Chair, IEEE International Conference on Image Processing (ICIP), 2009.
  - Session Chair, IEEE Conference on Computer Vision and Pattern recognition (CVPR), 2008.
  - Area Chair, IEEE International Conference on Image Processing (ICIP), 2008.
  - Member organizing committee for IEEE Workshop on Motion and Video Computing, 2002.
  - Member organizing committee for IEEE Workshop on Applications of Computer Vision, 2002.

B. National and Regional

- Award Reviewer: National Science Foundation (NSF), since 2005.
- Member of IEEE Image, Video, and Multi-dimensional Signal Processing Technical Committee, 2012. This committee is the highest committee of the Signal Processing Society to discuss and establish policies and future plans for the society.
- Voting member of the IEEE Multimedia Communications Technical Committee (MMTC), since 2008
- Textbook Reviewer:
  - Prentice Hall Higher Education
  - McGraw-Hill Publishers: Higher Education Division
  - Elsevier

C. University Level

- Member of Graduate Performance Assessment Committee (GPAC), 2010-present
- Member of Undergraduate Performance Assessment Committee (UPAC), 2009-2010

D. College-Level

- *Member, College Graduate Programs Curriculum Committee (GPCC)*, 2010-present
- *Member, College Assessment Committee*, 2008-present
- *Member, College Computing Committee*, 2008-2010
- *I2Lab Steering Committee*, 2006-2007

E. Department Level

- Graduate Coordinator, Computer Science Division, EECS, 2010-present
- *Chair, Computer Science Graduate Committee*, 2010-present
- *Chair, Computer Science Curriculum Oversight and Review Committee*, 2009-2011
- *Member, Undergraduate Committee*, 2008-present
- *Member of ad hoc IT study committee*, 2008
- *Academic Committee for Modeling and Simulation Program*, 2008-present
- *Member, Undergraduate Committee*, Computer Science, UCF, 2007
- *Member, Faculty Search Committee*, Dept. of Computer Science, UCF, 2006
- *Chair, Undergraduate committee*, Dept. of Computer Science, UCF, 2003-2006
- *Member, Standards Committee*, Dept. of Computer Science, UCF, 2005-
- *Faculty Search Committee*, Computer Science program, 2005
- *Member, Undergraduate Curriculum* Ad-hoc Committee, EECS, UCF, 2005
- *Member, faculty search committee*, Dept. of Computer Science, UCF, 2002-2003

F. Academic Program Leadership

- As the Graduate Program Coordinator, I managed to stop the declining trend of 4% per year in the PhD headcount, which was happening for several years prior to 2010. In the last two years, under my efforts the program has grown over 10% each year.
- As the Chair of the Undergraduate Committee organized a major effort to map the Computer Science curriculum to the IEEE/ACM Curriculum 2001 standard. This played a crucial role in the subsequent ABET accreditation of the program.

VII. Affiliations

- *Senior Member* of IEEE:
  - *Senior Member* of IEEE Computer Science Society
  - *Senior Member* of IEEE Signal Processing Society

VIII. Honors, Awards, and Professional Recognition

A. Teaching

- *Teaching Initiative Program (TIP) Award*: University of Central Florida, 2008 – 2009.
  - Monetary Amount: $5,000 permanent increase to 9-month salary
- *Academic Excellence Award*, Sun Micro Systems, 2003-2005
  - Monetary Amount: $138,000 for laboratory enhancement

B. Research

- Research Incentive Award (RIA): University of central Florida, 2009-2010.
  - Monetary Amount: $5,000 permanent increase to 9-month salary
- *Best Scientific Paper Award*: International Conference On Pattern Recognition, ICPR-2008, International Association for Pattern Recognition (IAPR)

  Yuping Shen, Nazim Ashraf, and Hassan Foroosh, *Action Recognition based on Homography Constraints*, International Conference on Pattern Recognition (ICPR), 2008.

  Conference acceptance rate for oral presentation less than 15%. Selected among ~1000 accepted papers in the conference as the best scientific contribution of the conference.
- *Distinguished Researcher*: UCF College of Engineering and Computer Science, 2005 – 2006, Assistant Professor level.
  - Monetary Amount: $2,500 one time incentive.
- *Best Paper Honorable Mention*: IEEE International Conference On Image Processing, ICIP 2005,

  M. Balci, H. Foroosh, *Estimating Sub-Pixel Shifts Directly From Phase Difference*, Proceedings of IEEE Int. Conf. on Image Processing (ICIP), Honorable Mention, vol. 1, pages 1057-1060, 2005.

  Conference acceptance rate for oral presentation less than 20%. Selected among ~800 accepted papers in the conference.
- *Best Paper Honorable Mention*: International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2005,

  M. Balci, H. Foroosh, *Inferring Motion from the Rank Constraint of the Phase Matrix*, Proceedings of IEEE International Conf. on Acoustic Speech & Signal Processing (ICASSP), Vol. II, pages 869-872, 2005.

Conference acceptance rate for oral presentation less than 20%. Selected among ~900 accepted papers in the conference.

- *Distinguished Researcher*: UCF School of Electrical Engineering and Computer Science, 2004 – 2005,
  Assistant Professor level.
- *Piero Zamperoni Award*, International Association for Pattern Recognition (IAPR), 2004.
  - Note on the Plaque:

    "In Grateful Recognition of Contributions to the Field of Pattern Recognition"
- *Senior Member of IEEE*, 2000-present.
  - Note on the Plaque:

    "In Recognition of Professional Standing"

C. Other Recognitions or Scholarships

- *Summer Faculty Fellowship, Invited Professor*, University of Nice - Sophia Antipolis, 2009.
- *Fellowship of Academie de Nice* for doctoral research, 1993.
- *Fellowship of Fondation de France* for pre-doctoral research, 1992.

IX. Personal Information

A. Citizenship

United States of America

B. Interests

- Hobby Electronics
- Biking
- Travelling