Shawn Newsam

Associate Professor and Founding Faculty
Electrical Engineering & Computer Science
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Dec 9, 2016

EDUCATION

Ph.D. in Electrical and Computer Engineering, University of California at Santa Barbara, 2004.
M.S. in Electrical and Computer Engineering, University of California at Davis, 1996.
B.S. in Electrical Engineering & Computer Science, University of California at Berkeley, 1991.

RESEARCH EXPERIENCE

Associate Professor (with tenure) of Electrical Engineering & Computer Science, School of Engineering, University of California at Merced, Jul 2012-present.
Assistant Professor of Electrical Engineering & Computer Science, School of Engineering, University of California at Merced, Jul 2005-Jun 2012.
Postdoctoral Fellow, Center for Applied Scientific Computing, Lawrence Livermore National Laboratory, Sep 2003-Jun 2005.
Graduate Student Researcher, Department of Electrical and Computer Engineering, University of California at Santa Barbara, Jul 1998-Aug 2003.

RESEARCH INTERESTS

Image processing, computer vision, pattern recognition, and applied machine learning with a focus on scientific domains including geospatial data analysis and computational structural biology.

AWARDS AND HONORS

National Science Foundation Faculty Early Career Development (CAREER) Award, 2012
Presidential Early Career Award for Scientists and Engineers (PECASE), 2007
Department of Energy (DOE) Early Career Scientist and Engineer Award, 2007
The Sapphire Data Mining Software Library I contributed to as a postdoc at LLNL received a 2006 R&D 100 award recognizing it as one of the top 100 industrial innovations worldwide
Lockheed-Martin Fellowship in Remote Sensing, 2001-2003
Nominated for Teaching Award for Outstanding Graduate Students, UC Davis, 1996
General Motors Scholar, UC Berkeley, 1988-1990
Dean's Honor List, UC Berkeley, 1986-1990

GRANTS

Awarded Grants as PI

$52,658, "Optimal Design of Smart Urban Crowd-Sensing," Center for Information Technology Research In the Interest of Society, Apr 2014-Jun 2016, Co-PI: A. Pozdnukhov.

$39,027, "Community-Based Air Pollution Informatics," Development Impact Lab, Blum Center for Developing Economies, Feb 2014-Jan 2015, Co-PI: S. Rameriz.

$497,208, "CAREER: Social Multimedia as Volunteered Geographic Information: Crowdsourcing What-Is-Where on the Surface of the Earth Through Proximate Sensing," National Science Foundation (NSF), Award IIS-1150115, Jul 2012-Jun 2017.

$647,841, "RUI: New Tools for Characterizing Protein Dynamics," National Science Foundation (NSF), Award DBI-0960480, Sep 2010-Aug 2015, Co-PIs: M. Colvin and A. Gopinathan.

$396,684, "III: Small: RUI: Integrating Image and Non-Image Geospatial Data," National Science Foundation (NSF), Award IIS-091706, Aug 2009-Jul 2013.

Cluster computing time, "New Computational Tools for Analyzing Protein Dynamics," Center for Information Technology Research In the Interest of Society, May 2012-May 2013.

$5,000, "Visibility Cameras for Monitoring Particulate Pollution," UC Merced Graduate & Research Council Faculty Research Grant, Mar 2011-May 2013.

$250,000, Department of Energy (DOE) Early Career Scientist and Engineer Award, Oct 2007-Sep 2012.

200K SUs of high-performance computing time, "New Computational Tools for Analyzing Protein Dynamics," National Science Foundation (NSF) TeraGrid, Oct 2010-Oct 2011.

$99,290, "Terrestrial Remote Sensing for Monitoring Atmospheric Particulates," Center for Information Technology Research In the Interest of Society, Oct 2007-Sep 2008 (extended to Sep 2009).

$2,095, "Image Processing and Computer Vision Techniques for Measuring Respiratory Burst in Alveolar Macrophages," UC Merced Graduate & Research Council Faculty Research Grant, Jul 2007-Jun 2008.

$2,403, "Localized Texture Analysis of Electron Microscopy Imagery", UC Merced Graduate & Research Council Faculty Research Grant, Jul 2006-Jun 2007.

$1,500, NASA California Space Grant, 2003.

$10,000 stipend plus $41,172 in-kind in the form of high-resolution satellite imagery, Lockheed-Martin Fellowship in Remote Sensing, 2001-2003.

Awarded Grants as Co-PI

$265,854, "ABI Development: Forest3D - an open source platform for lidar applications in forestry," National Science Foundation (NSF), Award DBI-1356077, Sep 2014-Aug 2016, Co-PIs: Q. Guo (PI).

$50,000, "An EMR-Based, Probabilistic Clinical Support System for the Diagnosis and Treatment of Sepsis Patients," Center for Information Technology Research In the Interest of Society, Jul 2012-Jun 2014.

50K node-hours on Anton, a special-purpose supercomputer for molecular dynamics (MD), "Application of New Tools for Characterizing Protein Dynamics to Intrinsically Disordered and Natively Folding Proteins," The National Resource for Biomedical Supercomputing (NRBSC), Apr 2011-Aug 2011. Co-PIs: M. Colvin (PI) and J. L. Phillips.

$472,500, "MRI: Acquisition of Robotic Hardware for Humanoid Research in Cognitive Science and Engineering," National Science Foundation (NSF), Award BCS-0821766, Sep 2008-Sep 2011, Co-PIs: S. Carpin (PI), M. Kallmann, T. Matlock, and D. Noelle.

$67,138, Atmospheric Aerosols and Health Graduate Fellowship, UC Toxic Substances Research and Teaching Program, Sep 2008-Aug 2010 (declined second year of funding from Sep 2009-Aug 2010), PI: L. Xie.

$250,000, "MRI: Acquisition of Equipment to Establish a Cognitive Sensorium and Visualization Facility at UC Merced," National Science Foundation (NSF), Award CNS-0723281, Jul 2007-Jul 2010, Co-PIs: M. Kallmann (PI) and T. Matlock.

$5,493, "REU Supplement for MRI: Acquisition of Equipment to Establish a Cognitive Sensorium and Visualization Facility at UC Merced," National Science Foundation (NSF), Amendment to CNS-0723281, Jun 2008-Aug 2008, Co-PIs: M. Kallmann (PI) and T. Matlock.

$14,200, "Cognitive Animation Workshop," IUCRP – Industry University Cooperative Research Program, UC Discovery Grants Opportunity Award dig06-428, Mar 2007, funded workshop organized at Yosemite Park in 2008, Co-PIs: M. Kallmann (PI) and T. Matlock.

$5,435, "Purchase a Multi- Format Film Drum Scanner," UC Merced Graduate & Research Council Shared Equipment Grant, Jul 2006-Jun 2007, Co-PIs: J. Choi (PI) and D. Ojcius.

$7,200, "Purchase Optical Filter Wheels for Ratiometric Fluorescence Measurement in Living Cells," UC Merced Graduate & Research Council Shared Equipment Grant, Jul 2006-Jun 2007, Co-PIs: W.-C. Chin (PI) and J. Choi.

Awarded Grants as Senior Personnel

$994,999, "URM: Undergraduate Research in Computational Biology at UC Merced," National Science Foundation (NSF), Award DBI-040962, Jan 2011-Dec 2015, Co-PIs: M. Watanabe (PI) and M. Colvin.

$2,830,483, Center for Computational Biology at UC Merced, Department of Energy (DOE), Sep 2004-Aug 2010. PI: M. Colvin.

PUBLICATIONS[1]

Refereed Journal Publications

[J9] D. Leung and **S. Newsam**, "Land cover classification using geo-referenced photos," *Multimedia Tools and Applications*, 74, pp. 11741-11761, 2015.

[J8] N. Graves and **S. Newsam**, "Camera-based visibility estimation: Incorporating multiple regions and unlabeled observations," *Ecological Informatics*, pp. 62-68, 2014.

[J7] Y. Yang and **S. Newsam**, "Geographic image retrieval using local invariant features," *IEEE Transactions on Geoscience and Remote Sensing*, 51:2, pp. 818-832, 2013.

[J6] J. L. Phillips, M. E. Colvin, and **S. Newsam**, "Validating clustering of molecular dynamics simulations using polymer models," *BMC Bioinformatics*, 12:445, 23 pages, 2011.

[J5] **S. Newsam**, "Crowdsourcing what is where: Community-contributed photos as volunteered geographic information," *IEEE Multimedia: Special Issue on Mining Community-Contributed Multimedia*, 17(4), pp. 36-45, 2010.

[J4] J. Yamada, J. L. Phillips, S. Patel, G. Goldfien, A. Calestagne-Morelli, H. Huang, R. Reza, J. Acheson, V. V. Krishnan, **S. Newsam**, A. Gopinathan, E. Y. Lau, M. E. Colvin, V. N. Uversky, and M. F. Rexach, "A bimodal distribution of two distinct categories of intrinsically-disordered structures with separate functions in FG nucleoporins," *Molecular and Cellular Proteomics*, 9(10), pp. 2205-2224, 2010.

[J3] **S. Newsam**, L. Wang, S. Bhagavathy, and B. S. Manjunath, "Using texture to analyze and manage large collections of remote sensed image and video data," *Journal of Applied Optics: Information Processing*, 43(2), pp. 210-217, 2004.

[J2] **S. Newsam**, S. Bhagavathy, L. Fonseca, C. Kenney, and B. S. Manjunath, "Object based representations of spatial images," *Acta Astronautica*, 48(5-12), pp. 567-577, 2001.

[J1] P.Wu, B. S. Manjunath, **S. Newsam**, and H. D. Shin, "A texture descriptor for browsing and similarity retrieval," *Journal of Signal Processing: Image Communication*, 16(1-2), pp. 33-43, 2000.

Refereed Book Chapters

[B2] **S. Newsam** and D. Leung, "Georeferenced social multimedia as volunteered geographic information," in *CyberGIS: Fostering a New Wave of Geospatial Discovery and Innovation*, Eds. S. Wang and M. Goodchild, Springer, Dordrecht, Netherlands, accepted Jan 2013.

[1] Co-author names underlined or in *italics* indicate graduate or undergraduate students directly under my supervision respectively.

[B1] B. S. Manjunath, G. M. Haley, W. Y. Ma, and **S. Newsam**, "Multiband techniques for texture classification and segmentation," in *Handbook of Image and Video Processing*, Second Edition, pp. 455-470, Ed. A. Bovik, Academic Press, 2005.

Refereed and Invited Publications in Proceedings of Conferences and Workshops

[C44] Y. Zhu and **S. Newsam**, "Spatio-temporal sentiment hotspot detection using geotagged photos," *ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems (ACM SIGSPATIAL GIS)*, 4 pages, 2016. (Best fast forward presentation runners up.)

[C43] D. Divecha and **S. Newsam**, "Large-scale geolocalization of overhead imagery," *ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems (ACM SIGSPATIAL GIS)*, 8 pages, 2016.

[C42] Y. Zhu and **S. Newsam**, "Depth2Action: Exploring embedded depth for large-scale action recognition," *European Conference on Computer Vision (ECCV): Workshop on Web-Scale Vision and Social Media (VSM)*, pp. 668-684, 2016.

[C41] Y. Zhu and **S. Newsam**, "Land use classification using convolutional neural networks applied to ground-level images," *ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems (ACM SIGSPATIAL GIS)*, 61, 4 pages, 2015. (Winner best poster award.)

[C40] Y. Yang and **S. Newsam**, "Semi-supervised learning of geospatial objects through multi-modal data integration," *IAPR/IEEE International Conference on Pattern Recognition (ICPR)*, pp. 4062-4067, 2014.

[C39] D. Leung and **S. Newsam**, "Can off-the-shelf object detectors be used to extract geographic information from geo-referenced social multimedia?" *ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems (ACM SIGSPATIAL GIS): Workshop on Location Based Social Networks*, pp. 12-15, 2012.

[C38] N. Graves and **S. Newsam**, "Visibility cameras: Where and how to look," *ACM International Conference on Multimedia: Workshop on Multimedia Analysis for Ecological Data*, pp. 7-12, 2012.

[C37] D. Leung and **S. Newsam**, "Exploring geotagged images for land-use classification," *ACM International Conference on Multimedia: Workshop on Geotagging and Its Applications in Multimedia*, pp. 3-8, 2012.

[C36] Y. Yang and **S. Newsam**, "Estimating the spatial extents of geospatial objects using hierarchical models," *IEEE Workshop on Applications of Computer Vision (WACV)*, pp. 305-312, 2012.

[C35] Y. Yang and **S. Newsam**, "Spatial pyramid co-occurrence for image classification," *IEEE International Conference on Computer Vision (ICCV)*, pp. 1465-1472, 2011.

[C34] **S. Newsam**, *B. Edmunds*, and *A. Pierce*, "PedSeg: GPS tracks as priors for overhead image segmentation (demo paper)," *ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems (ACM SIGSPATIAL GIS)*, pp. 533-536, 2011.

[C33] L. Xie and **S. Newsam**, "IM2MAP: Deriving maps from georeferenced community contributed photo collections," *ACM International Conference on Multimedia: Workshop on Social Media*, pp. 29-34, 2011.

[C32] N. Graves and **S. Newsam**, "Using visibility cameras to estimate atmospheric light extinction," *IEEE Workshop on Applications of Computer Vision (WACV)*, pp. 577-584, 2011.

[C31] Y. Yang and **S. Newsam**, "Bag-of-visual-words and spatial extensions for land-use classification," *ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems (ACM SIGSPATIAL GIS)*, pp. 270-279, 2010.

[C30] **S. Newsam**, D. Leung, *O. Caballero*, *J. Floreza*, and *J. Pulido*, "CBGIR: Content-based geographic image retrieval (demo paper)," *ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems (ACM SIGSPATIAL GIS)*, pp. 526-527, 2010.

[C29] L. Xie, M. Á. Carreira-Perpiñán, and **S. Newsam**, "Semi-supervised regression with temporal image sequences," *IEEE International Conference on Image Processing (ICIP)*, pp. 2637-2640, 2010.

[C28] D. Leung and **S. Newsam**, "Proximate sensing: Inferring what-is-where from georeferenced photo collections," *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, pp. 2955-2962, 2010.

[C27] D. Leung and **S. Newsam**, "Proximate sensing using georeferenced community contributed photo collections," *ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems (ACM SIGSPATIAL GIS): Workshop on Location Based Social Networks*, pp. 57-64, 2009.

[C26] L. Xie, *A. Chiu*, and **S. Newsam**, "Estimating atmospheric visibility using general purpose-cameras," *International Symposium on Visual Computing (ISVC)*, Lecture Notes in Computer Science (LNCS), Vol. 5359, pp. 356-367, 2008.

[C25] J. L. Phillips, M. E. Colvin, E. Y. Lau, and **S. Newsam**, "Analyzing dynamical simulations of intrinsically disordered proteins using spectral clustering," *IEEE International Conference on Bioinformatics and Biomedicine: Workshop on Computational Structural Bioinformatics*, pp. 17-24, 2008.

[C24] **S. Newsam** and Y. Yang, "Integrating gazetteers and remote sensed imagery," *ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems (ACM SIGSPATIAL GIS)*, pp. 220-229, 2008.

[C23] Y. Yang and **S. Newsam**, "Comparing SIFT descriptors and Gabor texture features for classification of remote sensed imagery," *IEEE International Conference on Image Processing (ICIP)*, pp. 1852-1855, 2008.

[C22] **S. Newsam** and Y. Yang, "Comparing global and interest point descriptors for similarity retrieval in remote sensed imagery," *ACM International Conference on Advances in Geographic Information Systems (ACM GIS)*, pp. 59-66, 2007.

[C21] **S. Newsam** and Y. Yang, "Geographic image retrieval using interest point descriptors," *International Symposium on Visual Computing (ISVC)*, Lecture Notes in Computer Science (LNCS), Vol. 4842, pp. 275-286, 2007.

[C20] J. Wright, S. Carpin, A. Cerpa, G. Gavilan, M. Kallmann, K. Laird, **S. Newsam**, and D. Noelle, "Collaboratory: An open source teaching and learning facility for computer science and engineering education", *International Conference on Frontiers in Education: Computer Science and Computer Engineering (FECS) - part of World Congress in Computer Science, Computer Engineering, & Applied Computing (WORLDCOMP)*, pp. 368-373, 2007.

[C19] **S. Newsam**, "Hierarchical texture motifs," *SPIE International Symposium on Electronic Imaging - Image Processing: Algorithms and Systems VI*, Vol. 6497, 9 pages, 2007.

[C18] **S. Newsam**, *E. Pernice*, J. Jasinski, and V. Leppert, "Using transmission electron microscopy to quantify the spatial distribution of nanoparticles suspended in a film," *SPIE International Symposium on Electronic Imaging - Computational Imaging V*, Vol. 6498, 12 pages, 2007.

[C17] **S. Newsam**, *K. Novini*, B. Rich, A. Rinna, and H. J. Forman, "Measuring respiratory burst in alveolar macrophages," *International Workshop on Multiscale Biological Imaging, Data Mining & Informatics*, pp. 69-70, 2006.

[C16] **S. Newsam**, "Seeing and reading red: Hue and color-word correlation in images and attendant text on the WWW," *ACM SIGKDD International Conference on Knowledge Discovery and Data Mining: International Workshop on Multimedia Data Mining*, pp. 101-106, 2005.

[C15] **S. Newsam** and C. Kamath, "Comparing shape and texture features for pattern recognition in simulation data," *SPIE International Symposium on Electronic Imaging, Image Processing: Algorithms and Systems IV*, Vol. 5672, pp. 106-117, 2005.

[C14] C. Kamath, A. Gezahegne, **S. Newsam**, and M. Roberts, "Salient points for tracking moving objects in video," *SPIE International Symposium on Electronic Imaging, Image and Video Communications and Processing*, Vol. 5685, pp. 442-453, 2005.

[C13] E. Cantu-Paz, **S. Newsam**, and C. Kamath, "Feature selection in scientific applications," *ACM SIGKDD International Conference On Knowledge Discovery and Data Mining*, pp. 788-793, 2004.

[C12] **S. Newsam** and B. S. Manjunath, "Normalized texture motifs and their application to statistical object modeling," *IEEE Conference on Computer Vision and Pattern Recognition: Workshop on Perceptual Organization in Computer Vision*, pp. 45-52, 2004.

[C11] **S. Newsam** and C. Kamath, "Retrieval using texture features in high resolution multi-spectral satellite imagery," *SPIE Defense and Security Symposium: Data Mining and Knowledge Discovery: Theory, Tools, and Technology VI*, Vol. 5433, pp. 21-32, 2004.

[C10] **S. Newsam**, J. Tesic, L. Wang, and B. S. Manjunath, "Issues in managing image and video data," *SPIE International Symposium on Electronic Imaging, Storage and Retrieval Methods and Applications for Multimedia*, Vol. 5307, pp. 280-291, 2004.

[C9] **S. Newsam**, S. Bhagavathy, and B. S. Manjunath, "Object localization using texture motifs and Markov random fields," *IEEE International Conference on Image Processing (ICIP)*, Vol. 2, pp. 1049-1052, 2003.

[C8] **S. Newsam**, L. Wang, S. Bhagavathy, and B. S. Manjunath, "Using texture to annotate remote sensed datasets" *International Symposium on Image and Signal Processing and Analysis, Special Session on Texture Analysis and Synthesis*, Vol. 1, pp. 72-77, 2003.

[C7] J. Tesic, **S. Newsam**, and B. S. Manjunath, "Mining image datasets using perceptual association rules," *SIAM International Conference on Data Mining, Workshop on Mining Scientific and Engineering Datasets*, pp. 71-77, 2003.

[C6] **S. Newsam**, S. Bhagavathy, and B. S. Manjunath, "Modeling object classes in aerial images using hidden Markov models," *IEEE International Conference on Image Processing (ICIP)*, Vol. 1, pp. 860-863, 2002.

[C5] S. Bhagavathy, **S. Newsam**, and B. S. Manjunath, "Modeling object classes in aerial images using texture motifs," *IAPR/IEEE International Conference on Pattern Recognition (ICPR)*, Vol. 1, pp. 981-984, 2002.

[C4] J. Tesic, **S. Newsam**, and B. S. Manjunath, "Scalable spatial event representation," *IEEE International Conference on Multimedia and Expo (ICME)*, Vol. 2, pp. 229-232, 2002.

[C3] **S. Newsam**, B. Sumengen, and B. S. Manjunath, "Category-based image retrieval," *IEEE International Conference on Image Processing (ICIP), Special Session on Multimedia Indexing, Browsing and Retrieval*, Vol. 3, pp. 596-599, 2001.

[C2] **S. Newsam**, S. Bhagavathy, L. Fonseca, C. Kenney, and B. S. Manjunath, "Object based representations of spatial images," *International Aeronautical Congress of the International Astronautical Federation*, 11 pages, 2000.

[C1] P. Wu, B. S. Manjunath, **S. Newsam**, and H. D. Shin, "A texture descriptor for image retrieval and browsing," *IEEE Conference on Computer Vision and Pattern Recognition: Workshop on Content-Based Access of Image and Video Libraries*, pp. 3-7, 1999.

Published Abstracts

[A12] T. G. Connolly, D. Ando, **S. Newsam**, A. Gopinathan, and M. E. Colvin, "Universal metrics of interstructure distance for flexible and intrinsically disordered proteins," *The 60th Annual Meeting of the Biophysical Society*, 2016.

[A12] T. G. Connolly, D. Ando, R. L. Wang, A. Gopinathan, **S. Newsam**, M. E. Colvin, "Identifying local regions of order and disorder in FG-nucleoporins and partially disordered proteins using molecular dynamics simulations," *The 58th Annual Meeting of the Biophysical Society*, 2014.

[A11] R. L. Wang, T. G. Connolly, J. L. Phillips, A. V. Miguel, A. Gopinathan, **S. Newsam**, M. E. Colvin, "Comparison of metrics of inter-structure distance when applied to molecular dynamics simulations of intrinsically disordered proteins," *The 58th Annual Meeting of the Biophysical Society*, 2014.

[A10] D. Leung and **S. Newsam**, "Proximate sensing: Geographic knowledge discovery in community-contributed photo collections," *AAG Annual Meeting: Knowledge Discovery in Cyberspace and Social Media*, 2013.

[A9] **S. Newsam**, "Georeferenced social multimedia as volunteered geographic information," *CyberGIS'12: The First International Conference on Space, Time, and CyberGIS*, 2012.

[A8] **S. Newsam** and Y. Yang, "Multi-scale object models based on local invariant features with application to spatial extent estimation," *International Conference on Geographic Information Science (GIScience): Workshop on Geographic Object Based Multi-Scale Analysis*, 2012.

[A7] J. L. Phillips, A. Gopinathan, **S. Newsam**, and M. E. Colvin, "Dimensionality estimation of disordered protein dynamics," *The 56th Annual Meeting of the Biophysical Society*, 2012.

[A6] M. Rexach, M. E. Colvin, A. Gopinathan, V. V. Krishnan, E. Y. Lau, **S. Newsam**, J. L. Phillips, V. N. Uversky, and J. Yamada, "Sorting with disorder at nuclear pores," *The 56th Annual Meeting of the Biophysical Society*, 2012.

[A5] J. L. Phillips, E. Y. Lau, **S. Newsam**, and M. E. Colvin, "Probing the conformation landscape of the unfolded state: Do disordered and unfolded dynamics differ?" *The 55th Annual Meeting of the Biophysical Society*, 2011. (Selected for oral presentation during Platform Session)

[A4] J. L. Phillips, E. Y. Lau, V. V. Krishnan, M. Rexach, **S. Newsam**, and M. E. Colvin, "Metric scaling for dimensionality reduction of disordered protein dynamics," *The 54th Annual Meeting of the Biophysical Society*, 2010. (My Ph.D. student Joshua Phillips received a Research Achievement Award for this poster presentation)

[A3] J. L. Phillips, E. Y. Lau, V. V. Krishnan, M. Rexach, **S. Newsam**, and M. E. Colvin, "Dynamics analysis of unstructured FG-Nucleoporins" *The 23nd Annual Symposium of the Protein Society*, 2009. (My Ph.D. student Joshua Phillips received a Best Student Poster Award for this poster presentation)

[A2] J. L. Phillips, E. Y. Lau, V. V. Krishnan, M. Rexach, **S. Newsam**, and M. E. Colvin, "Characterizing intrinsically disordered FG-Nucleoporins using molecular dynamics," *The 22nd Annual Symposium of the Protein Society*, 2008. (Poster presentation)

[A1] **S. Newsam**, E. Cantu-Paz, and C. Kamath, "Texture feature selection for retrieval and classification of multi-spectral remote sensed imagery," *Institute for Operations Research and*

the Management Sciences (INFORMS) Annual Meeting, Workshop on Data Mining and Predictive Modeling for the Earth Sciences and Earth Systems Engineering, 2004. (Oral presentation)

Other Refereed Works

[R1] **S. Newsam**, "Visual spatial search," *Spatial Search Specialist Workshop hosted by spatial@ucsb*, 2014. (White paper)

Other Non-Refereed Works

[O11] D. Leung and **S. Newsam**, "Proximate sensing: Geographic knowledge discovery in community-contributed photo collections," *The Bay Area Vision Meeting (BAVM)*, 2012. (Poster presentation)

[O10] D. Leung and **S. Newsam**, "Proximate sensing: Community contributed photographs as volunteered geographic information," *The Bay Area Vision Meeting (BAVM)*, 2010. (Poster presentation)

[O9] Y. Yang and **S. Newsam**, "Remote sensed image retrieval and classification using local descriptors," *The Bay Area Vision Meeting (BAVM)*, 2010. (Poster presentation)

[O8] L. Xie and **S. Newsam**, "Estimating atmospheric visibility using general-purpose cameras," *UC Toxic Substances Research & Teaching Program Symposium*, 2009. (Poster presentation)

[O7] **S. Newsam**, "Comparing shape and texture features for pattern recognition in simulation data," *Center for Advanced Signal and Image Sciences (CASIS) Workshop*, Lawrence Livermore National Laboratory, UCRL-ABS-207325, 2004. (Oral presentation)

[O6] E. Cantu-Paz, **S. Newsam**, and C. Kamath, "Feature selection in scientific applications," *Center for Advanced Signal and Image Sciences (CASIS) Workshop*, Lawrence Livermore National Laboratory, UCRL-ABS-207635, 2004. (Oral presentation)

[O5] R. White, **S. Newsam**, and C. Kamath, "Matching shape using local descriptors," *Lawrence Livermore National Laboratory Summer Student Research Symposium*, UCRL-POST-205648, 2003. (Poster presentation)

[O4] **S. Newsam**, "Texture features for image retrieval," *Center for Advanced Signal and Image Sciences (CASIS) Workshop*, Lawrence Livermore National Laboratory, UCRL-ABS-200349, 2003. (Poster presentation)

[O3] **S. Newsam**, "Exploiting implicit spatial relationships in remote sensed imagery to help bridge the semantic divide*," National Center for Geographic Information and Analysis (NCGIA) Japan-US Workshop on Annotation and Resource Discovery of Geographic Image Data*, 2003. (Oral presentation)

[O2] **S. Newsam**, J. Tesic, L. Wang, and B. S. Manjunath, "Mining images and video," *Center for Discrete Mathematics and Theoretical Computer Science (DIMACS) Workshop on Video Mining*, 2002. (Oral presentation)

[O1] J. Tesic, **S. Newsam**, and B. S. Manjunath, "Challenges in mining large image datasets," *The Institute for Pure and Applied Mathematics (IPAM), Mathematical Challenges in Scientific Data Mining*, 2002. (Poster presentation)

Theses

[T2] "Texture motifs in remote sensed imagery," Ph.D. Dissertation, University of California at Santa Barbara, Mar 2004. Supervisor: Prof. B. S. Manjunath.

[T1] "Successive still image transmission based on focus of attention," M.S. Thesis, University of California at Davis, Jun 1996. Supervisor: Prof. T. R. Reed.

PATENTS AND STANDARDS

M. P. Meyer, M. Barlow, and **S. Newsam**, patent application, "High throughput cell assays," 12/101,104, Regular, United States, submitted Apr 2008.

M. P. Meyer, M. Barlow, **S. Newsam**, patent application, "Methods to identify clinically relevant microorganisms and effective antimicrobial therapies," 61/018,870, Provisional, United States, submitted Jan 2008.

H. Shin, B. S. Manjunath, B. Sumengen, and **S. Newsam**, patent application, "Database building method for multimedia contents," 10/419,803, Regular, United States, submitted Apr 2003.

MPEG 7 Multimedia Content Description Interface (ISO/IEC standard). Participated in and contributed to the standardization of the Homogeneous Texture and Texture Browsing Descriptors, 1998-2002.

RESEARCH SUPERVISION

Ph.D. Qualifying Exam and Dissertation Committee Chair

Yi Zhu, UC Merced, expected graduation Summer 2019.
Mehul Divecha, UC Merced, expected graduation Summer 2018.
Daniel Leung, UC Merced, graduated Summer 2013.
Yi Yang, UC Merced, graduated Fall 2012.
Joshua Phillips, UC Merced, graduated Summer 2012.
(Joshua was co-advised with Prof. Michael Colvin)

Ph.D. Dissertation Committee Member

Chih-Yuan Yang, UC Merced, graduated Spring 2015, advisor: Prof. Ming-Hsuan Yang.
Carlo Camporesi, UC Merced, graduated Spring 2015, advisor: Prof. Marcelo Kallmann.
Christiane Pailo, UC Merced, graduated Fall 2013, advisor: Prof. Miriam Barlow.
Wenkai Li, UC Merced, graduated Spring 2013, advisor: Prof. Qinghua Guo.
Oktar Ozgen, UC Merced, graduated Spring 2013, advisor: Prof. Marcelo Kallmann.

Ph.D. Qualifying Exam Committee Member

Christina Ma, UC Merced, May 2015, advisor: Prof. Qinghua Guo.
Sifei Liu, UC Merced, Dec 2014, advisor: Prof. Ming-Hsuan Yang.
Yi Hsuan, UC Merced, Dec 2014, advisor: Prof. Ming-Hsuan Yang.
Tim Connolly, UC Merced, Sep 2014, advisor: Prof. Michael Colvin.
Angelo Kyrilov, UC Merced, Sep 2014, advisor: Prof. David Noelle.
Yanjun Su, UC Merced, Dec 2013, advisor: Prof. Qinghua Guo.
Jingjing Zhu, UC Merced, May 2012, advisors: Profs. Tom Harmon and Qinghua Guo.
Christiane Pailo, UC Merced, Mar 2012, advisor: Prof. Miriam Barlow.
Chih-Yuan Yang, UC Merced, Jun 2011, advisor: Prof. Ming-Hsuan Yang.
Donghai Li, UC Merced, Apr 2010, advisor: Prof. Qinghua Guo.
Wenkai Li, UC Merced, Apr 2010, advisor: Prof. Qinghua Guo.
Carlo Camporesi, UC Merced, Dec 2009, advisor: Prof. Marcelo Kallmann.
Oktar Ozgen, UC Merced, Jun 2009, advisor: Prof. Marcelo Kallmann.

M.S. Committee Chair

Xueqing Deng, UC Merced, expected graduation May 2017.
Ying Ding, UC Merced, expected graduation May 2016.
Atahan Eryol, UC Merced, "Analyzing protein dynamics using dimensionality Reduction," graduated Aug. 2015.
Nathan Graves, UC Merced, "Image-based meteorologic visibility estimation," graduated Dec 2011.
Ling Xie, UC Merced, "Geographic and environmental interpretation of photographs," graduated Aug 2011.

M.S. Committee Member

Simon Sarfar, UC Merced, "Learning shape priors with neural networks," graduated Dec 2014, advisor: Prof. Ming-Hsuan Yang.
Gary Phillips, UC Merced, "A Light Detection and Ranging (Lidar) study of the Sierra Nevada with geo-spatial applications," graduated Dec 2010, advisor: Prof. Qinghua Guo.

Undergraduate Research Supervision

Eduardo Hernandez[†], UC Merced, Summer 2016.
Aaron San Jose, UC Merced, Summer 2016
Ai-Linh Alten[†], UC Merced, May 2015-
Landon Taylor, UC Merced, May 2015-June 2016.
Alex Kuznetsov, UC Merced, Jun 2013-May 2014.
Kento Locatelli, UC Merced, Jun 2013-Dec 2013.
Teresa Tan[†], UC Merced, Jun 2013-Aug 2013.
Robert Hewitt, UC Merced, Jun 2013-Aug 2013.

[†] Indicates undergraduate student from groups underrepresented in STEM fields.
[†] Indicates undergraduate student from groups underrepresented in STEM fields.

Vibhor Jain, UC Merced, Jun 2012-Dec 2012.
Andrew Pierce, UC Merced, May 2011-Dec 2012.
Kemuel Clemente, UC Merced, May 2011-May 2012.
Brent Edmunds, UC Merced, May 2011-Aug 2011.
Heather Johnson†, UC Merced, Jan 2011-May 2011.
Mercedes Ramirez†, UC Merced, Jan 2011-May 2011.
Jesus Pulido†, UC Merced, May 2009-Aug 2010.
Justin Floreza†, UC Merced, May 2009-May 2010.
Nathan Graves, UC Merced, May 2009-Dec 2009.
Alex Chiu, UC Merced, May 2008-May 2009.
Johnson Cheung, UC Merced, May 2008-May 2009.
Oscar Caballero†, UC Merced, May 2008-May 2009.
Eric Pernice, UC Merced, May 2006-May 2007.
Khotan Novini†, UC Merced, May 2006-May 2007.

TEACHING

Courses Created and Taught

CSE 107 Introduction to Digital Image Processing, taught at UCM Fall 2014.
EECS 207 Digital Image Processing, graduate, taught at UCM Spring 2011, Spring 2014.
EECS/CSE 286 Advanced Topics in Computer Vision, graduate, taught at UCM Spring 2008, Spring 2010, Spring 2012.
CSE 185 Introduction to Computer Vision, undergraduate, taught at UCM Fall 2007, Fall 2008, Fall 2009, Spring 2011, Spring 2012, Spring 2013.
CSE 111 Database Systems, undergraduate, taught at UCM Fall 2006.
CSE 21 Introduction to Computing II, undergraduate, taught at UCM Spring 2006.
CSE 30 Introduction to Computer Science and Engineering I, taught at UCM Fall 2005.

Courses Taught

CSE 15 Discrete Mathematics, taught at UCM Fall 2016.
CSE 115/ENGR 160 Discrete Mathematics, taught at UCM Fall 2012, Fall 2013, Spring 2015.
EECS 290 Electrical Engineering and Computer Science Seminar, graduate, taught at UCM Fall 2010, Spring 2015.
ENGR 97/197 Service Learning: Engineering Projects in Community Service, undergraduate, taught at UCM Spring 2006, Fall 2006, Spring 2007, Fall 2007, Spring 2008, Fall 2008, Spring 2009, Spring 2010.
COGS 250 Cognitive Science Graduate Seminar, graduate, taught at UCM Spring 2007.

PROFESSIONAL SERVICE

Professional Society Leadership

Faculty Sponsor, ACM Student Chapter, UC Merced, Jan 2015-

Executive Committee Member (Elected), ACM SIGSPATIAL, Vice Chair, 2014-17.
Executive Committee Member (Nominated), ACM SIGSPATIAL, Conference Venue Coordinator, 2011-14.

Editorial Boards

Associate Editor (Founding), ACM Transactions on Spatial Algorithms and Systems, 2013-

Leadership Training

Invited Participant, Computing Research Association (CRA) Computing Community Consortium (CCC) Leadership in Science Policy Institute (LiSPI), Washington, DC, 2015.

Organization of Conferences and Meetings

General Co-Chair, ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems (ACM SIGSPATIAL), Los Angeles, 2017.
General Co-Chair, ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems (ACM SIGSPATIAL), San Francisco, 2016.
Co-Chair, Workshop on Geo-Spatial Computer Vision, in conjunction with the IEEE Conference on Computer Vision and Pattern Recognition (CVPR), Las Vegas, 2016.
Co-Chair, Workshop on Vision from Satellite to Street, in conjunction with the IEEE International Conference on Computer Vision (ICCV), Santiago, 2015.
Co-Chair, Workshop on Computer Vision for Converging Perspectives, in conjunction with the IEEE International Conference on Computer Vision (ICCV), Sydney, 2013.
Co-Chair, Workshop on Location-Based Social Networks (LBSN), in conjunction with the ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems (ACM SIGSPATIAL), Redondo Beach, 2012.
Local Arrangements Co-Chair, ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems (ACM SIGSPATIAL), San Jose, 2010 and Chicago, 2011.
Chair, Special Session on High-Resolution Remote Sensed Image Understanding, International Conference on Geoinformatics, Washington DC, 2009.
Session Chair, Image Segmentation IV, IEEE International Conference on Image Processing (ICIP), San Diego, 2008.
Co-organizer of the Cognitive Animation Workshop, Yosemite National Park, 2008.

Program Committee Member

Senior PC Member, ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems (ACM SIGSPATIAL), 2016.
Senior PC Member, ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems (ACM SIGSPATIAL), 2015.
PC Member, Asian Conference on Computer Vision (ACCV), 2014.
PC Member, International Conference on CyberGIS and Geodesign, 2014.
PC Member, IEEE International Conference on Image Processing (ICIP), 2014.
PC Member, ACM International Conference on Multimedia (MM), 2013.
PC Member, IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2012.

PC Member, International Conference on Advanced Geographic Information Systems, Applications, and Services (GEOProcessing), 2012, 2013, 2014, 2015.
PC Member, IEEE Workshop on Applications of Computer Vision (WACV), 2012.
PC Member, ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems (ACM SIGSPATIAL), 2009, 2010, 2011, 2012, 2013, 2014.
PC Member, ACM SIGSPATIAL International Workshop on Location-Based Social Networks, 2011, 2013, 2014, 2015.
PC Member, IEEE International Conference Bioinformatics & Biomedicine: Computational Structural Bioinformatics Workshop, 2011.
PC Member, IEEE International Conference on Computer Vision (ICCV), 2011
PC Member, International Symposium on Visual Computing, Special Track on Computational Biology, 2009.
PC Member, INSTICC International Conference on Computer Vision Theory and Applications (VISAPP), 2006, 2007, 2008.
PC Member, IADIS International Conference WWW/Internet, 2006.
PC Member, SIAM International Conference on Data Mining, 2005, 2006.

Reviewer of Research Proposals

Proposal Reviewer, Advanced Research Projects Agency - Energy (ARPA-E), Dec 2014.
Proposal Reviewer, Qatar National Research Fund, Apr 2013, Feb 2014.
Proposal Reviewer, Computer & Information Science and Engineering (CISE) Directorate, National Science Foundation (NSF), Nov 2013.
Proposal Reviewer, Computer & Information Science and Engineering (CISE) Directorate, National Science Foundation (NSF), Oct 2013.
Review Panel Member, Computer & Information Science and Engineering (CISE) Directorate, National Science Foundation (NSF), Apr 2012.
Proposal Reviewer, Hong Kong Research Grant Council, Jun 2011.
Proposal Reviewer, Netherlands Organisation for Scientific Research (NWO), Oct 2010.
Review Panel Member, Computer & Information Science and Engineering (CISE) Directorate, National Science Foundation (NSF), Oct 2009.
Proposal Reviewer, UC Discovery Grant in Digital Media, Mar 2008.
Proposal Reviewer, CITRIS Student White-Paper Competition, Mar 2007.
Proposal Reviewer, Computer & Information Science and Engineering (CISE) Directorate, National Science Foundation (NSF), Feb 2007.
Proposal Reviewer, U.S. Department of Energy (DOE) Scientific Discovery through Advanced Computing (SciDAC), Apr 2006.
Review Panel Member, Computer & Information Science and Engineering (CISE) Directorate, National Science Foundation (NSF), Oct 2006.
Review Panel Member, IGERT program, National Science Foundation (NSF), Oct 2005.

Reviewer of Manuscripts

ACM Conference on Multimedia (MM)
ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems (ACM SIGSPATIAL)
Annals of the Association of American Geographers
Annual Meeting of the Cognitive Science Society (CogSci)

Applied Optics
Asian Conference on Computer Vision (ACCV)
Cartography and Geographic Information Science (CaGIS) Journal
Communications of the ACM
Computers, Environment, and Urban Systems
Computer Vision and Image Understanding
Electronics and Communications Research Institute Journal
European Conference on Computer Vision (ECCV)
GEOProcessing
IEEE Conference on Computer Vision and Pattern Recognition (CVPR)
IEEE Geoscience and Remote Sensing Letters
IEEE International Conference on Bioinformatics & Biomedicine, Workshop on Computational Structural Bioinformatics
IEEE International Conference on Image Processing (ICIP)
IEEE International Symposium on Circuits and Systems
IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)
IEEE Signal Processing Magazine
IEEE Transactions on Geoscience and Remote Sensing
IEEE Transactions on Image Processing
IEEE Transactions on Intelligent Transportation Systems
IEEE Transactions on Knowledge and Data Engineering
IEEE Transactions on Multimedia
IEEE Transactions on Parallel and Distributed Systems
IEEE Transactions on Pattern Analysis and Machine Intelligence
IEEE Workshop on Applications of Computer Vision
IEEE Workshop on Content-based Access of Image and Video Libraries
Image and Vision Computing
International Conference on Advanced Geographic Information Systems, Applications, and Services
International Journal of Computer Vision
International Journal of Digital Earth
International Journal of Geographic Information Science
International Journal of Pattern Recognition and Artificial Intelligence
Journal of Artificial Intelligence Research
Journal of the Optical Society of America A
NSTICC International Conference on Computer Vision Theory and Applications (VISAPP)
Pattern Recognition Letters
Photogrammetric Engineering and Remote Sensing
Remote Sensing Letters
Remote Sensing of Environment
Signal, Image and Video Processing

UNIVERSITY SERVICE

System-Level Service

UC Merced representative to the UC Faculty Welfare Committee at UCOP, Fall 2014.
Faculty representative, UC Day in DC, May 2013
Reviewer, UC Proof of Concept Commercialization Gap Grant, Feb 2013

Member, HathiTrust Research Center Working Group, represented UC system on working group charged with developing a call for proposals to develop HathiTrust Research Centers, Jun 2009-Dec 2009.
Review committee member, UC Discovery Grant in Digital Media, Mar 2008.

Campus-Level Service

Member, Faculty Welfare, Diversity, and Academic Freedom Committee, Aug 2014-Jun 2015.
Panelist, UC Merced Grant Writing Institute—CAREER Awardee Panel, Apr 2014.
Member, Salary Equity Committee, Dec 2012-Jun 2015.
Member, Faculty Welfare Committee, Aug 2012-Jun 2014.
Member, Office of Ombuds Services Advisory Committee, Aug 2012-Jun 2015.
Member, Email, Calendaring, and Collaboration Committee, Oct 2011-May 2012.
Member, UC Merced Health Sciences Research Institute (HSRI), Oct 2010-present.
Co-founder/director (w/ Q. Guo and R. Mostern), UC Merced Spatial Analysis Research Center (SpARC), Sep 2010-present.
Member, UC Merced Center for Autonomous and Interactive Systems (CAIS), Jan 2010-present.
Member, UC Merced Mapping and Spatial Analysis Academic Planning Committee, Sep 2008-Sep 2010.
Affiliated member, Applied Mathematics Graduate Group, Jul 2005-present.
Affiliated member, Cognitive and Information Sciences Graduate Group, Jul 2005-present.
Member, Graduate and Research Council, Sep 2009-Aug 2011.
Member, Committee to establish Award for Excellence in Graduate Interdisciplinary Study (AEGIS) fellowship, Jul 2007-Jun 2008.
Founding chair, Electrical Engineering and Computer Science Graduate Group (previously Computer and Information Systems Graduate Group), Jul 2005-Jun 2007 (member Jul 2007-present).
Co-coordinator, Mind, Technology and Society Invited Speaker Series, Jul 2005-Jun 2007.
Member, Ad-hoc Committee for Community College Computer Science Curriculum Articulation, Jul 2005-Jun 2006.
Member, Ad-hoc Committee for Vetting General Education Across Schools, Jul 2005-Jun 2006.

School of Engineering-Level Service

Faculty Participant, School of Engineering Organizational Effectiveness & Visioning Process (Top 100 Project), Mar 2015-present
Member, Electrical Engineering and Computer Science Graduate Program Executive Committee, Jan 2015-present
Member, Electrical Engineering and Computer Science Graduate Program Admissions Committee, Jan 2015-present
Chair, Faculty Merit Review Committee, Aug 2014-May 2015.
Judge, Capstone Design ABET Assessment, May 2014.
Faculty Assessment Officer for CSE Program, Jul 2013-Jun 2014.
Chair, Faculty Mid-Career Appraisal Committee, Aug 2013-May 2014.
Member, Faculty Merit Review Committee, Aug 2013-May 2014.
Vice-Chair, School of Engineering Faculty, Aug 2012-May 2013.
Member, School of Engineering Executive Committee, Aug 2012-May 2013.
Member, Faculty Promotion Committee, Aug 2012-May 2013.
Member, Faculty Advancement Committee, Aug 2012-May 2013.

Search Committee Member for 1 Faculty Search, 2012-2013.
Member, Resources Committee, Sep 2008-May 2009 and Sep 2011-May 2012.
Member, Academic Personnel Committee, Sep 2010-May 2011.
Observer, Academic Personnel Committee, Sept 2009-May 2010.
Search Committee Member for 1 Faculty Search, 2008-2009.
Search Committee Member for 1 Faculty Search, 2007-2008.
Search Committee Chair for **2** Faculty Searches, 2006-2007.
Search Committee Member for **6** Faculty Searches, 2006-2007.
Search Committee Member for Computing Research Manager, 2006-2007.
Search Committee Member for Teaching Lab Manager, 2006-2007.
Chair, Committee on Committees, Jul 2006-Jun 2007.
Member, Executive Committee, Jul 2006-Jun 2007.
Search Committee Chair for **2** Faculty Searches, 2005-2006.
Search Committee Member for **6** Faculty Searches, 2005-2006.
Vice-Chair, School of Engineering Faculty, Jul 2005-Jun 2007.
Member, Ad-hoc Committee for Mid-Semester Teacher Assistant Evaluation, Jul 2005-Jun 2006.

INVITED TALKS

"Crowd-Sourced Images for Ag and Environmental Analytics," E & J Gallo Winery Research Opportunity Meeting, UC Merced, Jan 2014.

"Information Integration and Informatics at UC Merced," UC Davis, Nov 2013 (host: Prof. Nina Amenta).

"Knowledge Discovery in Complex Data (Turning Big Data into Big Knowledge)," Dean's Advisory Board, School of Engineering, UC Merced, Apr 2013.

"Georeferenced Social Multimedia as Volunteered Geographic Information," *International Conference on Space, Time, and CyberGIS*, Plenary Address, University of Illinois at Urbana Champaign, Aug 2012.

"Social Multimedia as Volunteered Geographic Information: Crowdsourcing What-Is-Where Through Proximate Sensing," National Geospatial-Intelligence Agency (NGA), Apr 2012.

"Social Multimedia as Volunteered Geographic Information: Crowdsourcing What-Is-Where Through Proximate Sensing," Frontiers of Science and Engineering Lecture Series, The Challenger Learning Center of the San Joaquin Valley, Atwater, CA, Mar 2012.

"Social Multimedia as Volunteered Geographic Information: Crowdsourcing What-Is-Where Through Proximate Sensing," Geospatial Innovation Facility, UC Berkeley, Mar 2012 (host: Prof. Maggi Kelly).

"Image-Based Visibility Estimation as a Proxy for Air Pollution," ENGR 191 Professional Seminar, UC Merced, Jan 2012 (host: Prof. Dan Hirleman).

"Social Multimedia as Volunteered Geographic Information: Crowdsourcing What-Is-Where Through Proximate Sensing," Mind, Technology, and Society Invited Speaker Seminar Series, UC Merced, Nov 2011 (host: Prof. Teenie Matlock).

"Image Processing and Computer Vision (and Other Research) at UC Merced," NSF Undergraduate Research and Mentoring Program for Computational Biology, UC Merced, Jun 2011.

"Proximate Sensing: Inferring What-Is-Where From Georeferenced Photo Collections," Computer Science Department Colloquium, University of Southern California, Apr 2011 (host: Prof. Cyrus Shahabi).

"Proximate Sensing: Inferring What-Is-Where From Georeferenced Photo Collections," University of Maryland Institute for Advanced Computer Studies (UMIACS), University of Maryland, Mar 2011 (hosts: Prof. Rama Chellappa and Prof. Hanan Samet).

"Estimating Atmospheric Visibility Using Low-Cost Cameras," The Center for Information Technology in the Interest of Society (CITRIS) Academic Review, UC Berkeley, Oct 2010.

"Research Experiences for Undergraduates," Student Orientation, UC Merced, Jul 2010.

"Proximate Sensing Using Georeferenced Community Contributed Photo Collections," EECS Seminar, UC Merced, Sep 2009.

"Estimating Atmospheric Visibility Using Static Cameras," National Center for Supercomputing Applications, University of Illinois, Jul 2008 (host: Dr. Peter Bajcsy).

"Image Processing and Pattern Recognition Research at UC Merced," Computer Science Department Colloquium, California State University, Fresno, Apr 2008.

"The Future of Multimedia Search: Content Based Image Retrieval," Center for Information Technology In the Interest of Society (CITRIS) Future of Search Conference, UC Berkeley, May 2007.

"Multimedia Data Analysis," Sun Microsystems Research Visit, UC Merced, Mar 2007.

"Multimedia Data Analysis," HP Research, Palo Alto, Feb 2007.

"Texture Analysis of Remote Sensed Imagery," Center for Information Technology In the Interest of Society (CITRIS) Research Exchange, UC Berkeley, Nov 2006.

"Graduate Studies at the University of California at Merced," Lawrence Livermore National Laboratory, Aug 2006.

"The University of California at Merced: Is the New Campus Actually Happening? Just Where is Merced?" Lawrence Livermore National Laboratory, Aug 2005.

"Intelligent Systems: Image Understanding and Motion Synthesis," Student Orientation, UC Merced, Aug 2005.

"Texture and Higher Order Spatial Relationships in Images," UC Merced, Jan 2005.

"Automated Annotation of Remote Sensed Imagery," Center for Applied Scientific Computing, Lawrence Livermore National Laboratory, Feb 2003.

"Computer Recognition of Patterns in Aerial Photographs," Western Association of Map Libraries, UC Santa Barbara, Mar 2002.

"Similarity Retrieval Using the MPEG-7 Homogeneous Texture Descriptor," The National Center for Supercomputing Applications (NCSA), Defining a Motion Imagery Research and Development Program Workshop, Nov 2001.

"Content Based Image Retrieval," ECE181b-Introduction to Computer Vision, UC Santa Barbara, Feb 2001.

"Discovering Latent Spatial Relationships in Remote Sensed Imagery," Sapphire Scientific Data Mining Project Team, Center for Applied Scientific Computing, Lawrence Livermore National Laboratory, Feb 2001.

"Image Features," ECE268-Internet Computing and Web Technologies, UC Santa Barbara, Jan 2001.

INDUSTRY EXPERIENCE

Gallup and Associates, Inc., Systems Engineering, Berkeley, California USA
Vice President of Software, Jun 1996-Dec 1997
Software Engineer Consultant, Oct 1994-Jun 1996
Software Engineer, Jun 1990-Sep 1994

Delco Systems/Space Operations, Santa Barbara, California USA

General Motors Scholar Internship, May 1989-Sep 1989 and May 1988-Sep 1988