

KAZUNORI OKADA, Ph.D.
Assistant Professor
Computer Science Department
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1. Contact Information

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2. Education

- **University of Southern California**, Los Angeles, CA: 1996-2001, **Ph.D. (May 2001), Computer Science**
- **University of Southern California**, Los Angeles, CA: 1994-1996, **M.S. (May 1996), Computer Science**
- **Nagoya University**, Nagoya, Japan: 1992-1994, **M.Phil. (Mar 1994), Human Informatics**
- **Nagoya University**, Nagoya, Japan: 1988-1992, **B.Eng. (Mar 1992), Mechanical Engineering**

3. Professional Experiences

- *Associate Editor* (2010 – Current) IPSJ Transaction on Computer Vision and Applications
- *Assistant Professor* (2006 – Current) San Francisco State University, Computer Science Department, San Francisco
- *Visiting Professor* (2007) Heriot-Watt University, School of Engineering and Physics, Edinburgh, UK
- *Member Technical Staff* (2005 – 2006) Siemens Corporate Research, Imaging and Visualization Dept., Princeton, NJ
- *Member Technical Staff* (2003 – 2005) Siemens Corporate Research, Real-Time Vision & Modeling Dept, Princeton, NJ
- *Research Associate* (2001 - 2003) University of Southern California, Computer Science Department, Los Angeles
- *Consultant* (2002) Omron Corporation, Kyoto, Japan: *Strategic Report on Computer Vision & Face Recognition*
- *Research Assistant* (1995 - 2001) USC, Integrated Media System Center, Los Angeles, USA
- *Visiting Researcher* (1999) ATR, Human Information Processing Research Labs, Kyoto, Japan
- *Project Manager: FERET Program* (1996 - 1997) USC, Lab. of Computational and Biological Vision, Los Angeles, USA
- *Visiting Researcher* (1996) Ruhr-Universität Bochum, Institut für Neuroinformatik, Bochum, Germany
- *Research Assistant* (1996) USC, Annenberg Center of Communications, Los Angeles, USA
- *Project Leader* (1993 - 1994) Nagoya University, Information Methodology Laboratory, Nagoya, Japan

4. Teaching Experiences

- *Biomedical Image Analysis* (2010 - Current) CS Dept., San Francisco State University, San Francisco CA – Graduate- and upper-division undergraduate-level lecture/lab course on advanced biomedical imaging methods
- *Discrete Mathematics* (2009 – Current) CS Dept, San Francisco State University, San Francisco CA – Undergraduate lecture course on discrete mathematics with emphasis for computer scientist
- *Pattern Analysis and Machine Intelligence* (2006 – Current) CS Dept, San Francisco State University, San Francisco CA – Graduate-level lecture course on artificial intelligence, statistical pattern recognition and machine learning
- *Computers For Everyone* – (2006 – Current) CS Dept. San Francisco State University, San Francisco CA – Undergraduate lecture course on introductory computer & information literacy
- *Network Self-Organization in Ontogenesis and Function of the Visual Systems* (2002, 2003) CS Dept. USC, Los Angeles CA – Co-taught the first six weeks in a graduate-level lecture course on non-linear dynamical systems
- *Methods of Computational Physics* (2002) Physics Department, USC, Los Angeles CA – Gave two guest lectures in a graduate-level seminar course on advanced numerical methods for physical computations
- *Self-Organization and Neural Network* (1996, 2000) CS Dept. USC, Los Angeles, CA – Served as a teaching assistant in a graduate-level lecture course on artificial neural networks
- *Geometrical Modeling* (1992 - 1993) Information Methodology Laboratory, Nagoya University, Nagoya, Japan – Served as a teaching assistant in an undergraduate-level lecture course on geometrical modeling and graphics

5. New Course Development

- *Biomedical Image Analysis* (2009) CS Dept., San Francisco State University – Graduate- and upper-division undergraduate-level lecture/lab course on advanced biomedical imaging techniques and algorithms
- *Computing for Biologists* (2009) CS Dept., San Francisco State University – Undergraduate lecture/lab course on basic computer literacy and programming for biological studies

- **Web & DB for Biologists** (2009) CS Dept., San Francisco State University – Undergraduate lecture/lab course on basic web-based application and database development for biological studies
- **Pattern Analysis and Machine Intelligence** (2007) CS Dept., San Francisco State University – Graduate-level lecture course on artificial intelligence, statistical pattern recognition and machine learning
- **Computers for Everyone** (2006) CS Dept., San Francisco State University – Undergraduate lecture course on introductory computer & information literacy

6. Publications

Invited Tutorials: (1)

1. K. Okada, *Mean Shift From Theory to Application*, In proc. IEICE workshop on Pattern Recognition and Media Understanding, (PRMU2007-308, Invited Tutorial), pp. 401-414, Kanazawa, 2008 (In Japanese)

Invited Book Chapters: (5)

1. K. Okada, *Anisotropic Scale Selection, Robust Gaussian Fitting, and Pulmonary Nodule Segmentation in Chest CT Scans*, In Multi-Modality Medical Image Segmentation and Registration Techniques, Springer, 2010
2. K. Okada, *Ground-Glass Nodule Characterization in High-Resolution CT Scans*, In Computer-Aided Diagnosis of Lung Imaging, Taylor and Francis, LLC, 2010
3. K. Okada, *Mean Shift From Theory to Application*, In Computer Vision Saisentan Guide, Adcom Media, 2010
4. K. Okada, J. Steffens, T. Maurer, H. Hong, E. Elagin, H. Neven, and C. von der Malsburg, *The Bochum/USC Face Recognition System And How it Fared in the FERET Phase III Test*, In Face Recognition: From Theory to Applications, H. Wechsler, P.J. Phillips, V. Bruce, F. Fogelman Soulie, T.S. Huang (Eds.), pp. 186-205, Springer-Verlag, 1998
5. K. Okada and C. von der Malsburg, *Face Recognition and Pose Estimation with Parametric Linear Subspaces*, In Applied Pattern Recognition, H. Bunke, A. Kandel, M. Last (Eds.), pp. 49-74, Springer, 2008

Book: (1)

1. K. Okada, *Pose-Invariant Face recognition: Analysis, Synthesis, Identification of Human Faces with Pose Variations*, VDM Verlag Dr. Mueller, 2010

Journal Articles: (6)

1. K. Okada, A. Flores*, M. G. Linguraru, *Boosting Weighted Linear Discriminant Analysis*, International Journal of Advanced Statistics for Economics and Life Sciences, 2(1): 1-11 (2010)
2. J. Huo*, K. Okada, H. Kim, W. Pope, J. Goldin, J. Alger, M. Brown, *CADrx for GBM Brain Tumors: Predicting Treatment Response from Changes in Diffusion-Weighted MRI*, Algorithms, 2: 1350 – 1367 (2009)
3. J. Martin-Malivel and K. Okada, *Human and Chimpanzee Face Recognition in Chimpanzees (Pan troglodytes): Role of Exposure and Impact on Categorical Perception*, Behavioral Neuroscience, 121(6): 1145-1154 (2007)
4. H. Ling* and K. Okada, *An Efficient Earth Mover's Distance Algorithm for Robust Histogram Comparison*, IEEE Trans. Pattern Analysis and Machine Intelligence, 29(5): 840-863 (2007)
5. K. Okada, D. Comaniciu, A. Krishnan, *Robust Anisotropic Gaussian Fitting for Volumetric Characterization of Pulmonary Nodules in Multislice CT*, IEEE Trans. Medical Imaging, 24(3): 409-423 (2005)
6. M. Nederhouser, M. C. Mangini, I. Biederman, and K. Okada, *Invariance to contrast inversion when matching objects with face-like surface structure and pigmentation*, Journal of Vision, 3(9): 93 (2003)

Refereed Conference Articles: (39)

7. N. Timilsina*, K. Okada, *Development of a Stained Cell Nuclei Counting System*, SPIE Medical Imaging, 2011 [Oral]
8. J. Huo*, K. Okada, W. Pope, M. Brown, *Sampling-Based Ensemble Segmentation against Inter-Operator variability*, SPIE Medical Imaging, 2011 [Oral]
9. J. Huo*, E. van Rikxoort, K. Okada, H. Kim, W. Pope, J. Goldin, M. Brown, *Confidence-based Ensemble for GBM brain tumor segmentation*, SPIE Medical Imaging 2011
10. Y. Miao*, M. Kafai*, K. Okada, *Bayesian Classification of Local 3D Structures in Medical Images*, In proc. International Workshop on Machine Learning in Medical Imaging (MLMI), 2010
11. A. Flores*, M. G. Linguraru, K. Okada, *Boosted-LDA for Biomedical Data Analysis*, In proc. International Workshop on Machine Learning in Medical Imaging (MLMI), 2010
12. M. Kafai*, Y. Miao*, K. Okada, *Directional Mean Shift and its Application for Topology Classification of Local 3D Structures*, In proc. IEEE Computer Society Workshop on Mathematical Methods in Biomedical Image Analysis (MMBIA), 2010 [oral]
13. X. Shao*, N. Lam-Miller*, S. Courey, K. Okada, *Web-Based Tools for Enhancing Teacher Preparation: Helping to Build a High Quality Teaching Workforce*, In proc. World Conference on Educational Multimedia, Hypermedia & Telecommunications (ED-MEDIA), 2010
14. X. Shao*, N. Lam-Miller*, S. Courey, K. Okada, *A Web-based Lesson Plan Creator for Teaching Preparation Programs*, accepted to Annual Conference for Society for Information Technology & Teacher Education (SITE), 2010

15. A. Flores*, S. Rysavy*, R. Enciso, K. Okada, *Non-Invasive Differential Diagnosis of Dental Periapical Lesions in Cone-Beam CT*, In proc. IEEE International Symposium of Biomedical Imaging: From Nano to Macro (ISBI), 2009 [acceptance rate = 50%]
16. K. Okada, N. Lam-Miller*, X. Shao*, S. Courey, *Web-based Tools for Credential Candidates in Special Education Programs*, In proc. International Conference on Computer Supported Education (CSEDU), 2009 [acceptance rate = 52%]
17. J. Huo*, W. Pope, G. Kim, K. Okada, M. Brown, J. Alger, Y. Wang, J. Goldin, *Histogram-based classification with Gaussian Mixture Modeling for GBM Tumor Treatment Response using ADC Map*, In proc. SPIE Medical Imaging Conferences, Orland, 2009
18. S. Rysavy*, A. Flores*, R. Enciso, K. Okada, *Classifiability Criteria for Refining of Random Walks Segmentation*, In proc. International Conference on Pattern Recognition (ICPR), Tampa, 2008 [acceptance rate = 38.8%]
19. J. Huo*, W. Pope, K. Okada, J. Alger, HJ. Kim, Y. Wang, J. Goldin, M. Brown, *Early Detection of Treatment Response for GBM Brain Tumor using ADC Map of DW-MRI*, In proc. MICCAI 2008 Workshop on Computational Diffusion MRI, New York, 2008
20. K. Okada, S. Periaswamy, J. Bi, *Stratified Regularity Measures with Jensen-Shannon Divergence*, In proc. IEEE Computer Society Workshop on Mathematical Methods in Biomedical Image Analysis (MMBIA), Anchorage, 2008
21. T. Goh*, R. West*, K. Okada, *Robust Detection of Semantically Equivalent Visually Dissimilar Objects*, In proc. International Workshop on Semantic Learning Applications in Multimedia (SLAM), Anchorage, 2008
22. S. Rysavy*, A. Flores*, R. Enciso, K. Okada, *Segmentation of Large Periapical Lesions toward Dental Computer-Aided Diagnosis in Cone-Beam CT Scans*, In proc. SPIE Medical Imaging Conferences, vol. 6914, pp. 153, San Diego, 2008 [Best poster honorable mention award]
23. K. Okada and X. Huang, *Robust Click-Point Linking: Matching Visually Dissimilar Local Regions*, In proc. IEEE International Workshop on Beyond Multiview Geometry: Robust Estimation and Organization of Shapes from Multiple Cue, Minneapolis, 2007 [oral]
24. K. Okada, X. Huang, X. Zhou, A. Krishnan, *Robust Click-Point Linking for Longitudinal Follow-Up Studies*, In proc. Int. Workshop on Medical Imaging and Augmented Reality (MIAR), pp. 252-260, Shanghai, 2006 [oral]
25. K. Okada, M. Singh, V. Ramesh, A. Krishnan, *Prior-Constrained Scale-Space Mean Shift*, In proc. British Machine Vision Conference (BMVC), vol. II, pp. 829-838, Edinburgh, 2006 [oral; acceptance rate = 9% (46/500)]
26. H. Ling* and K. Okada, *Diffusion Distance for Histogram Comparison*, In proc. IEEE Conf. on Computer Vision and Pattern Recognition (CVPR), vol. I, pp. 246-253, New York, 2006 [acceptance rate = 23.3%]
27. H. Ling* and K. Okada, *EMD_L1: An Efficient and Robust Algorithm for Comparing Histogram-Based Descriptors*, In proc. European Conf. Computer Vision (ECCV), vol. III, pp. 330-343, Graz, 2006 [acceptance rate = 17%]
28. J. Bi, S. Periaswamy, K. Okada, T. Kubota, G. Fung, M. Salganicoff, B. Rao, *Computer Aided Detection via Asymmetric Cascade of Sparse Hyperplane Classifiers*, In proc. Annual SIGKDD Int. Conf. on Knowledge Discovery and Data Mining (KDD), pp. 837-844, Philadelphia, 2006 [industrial oral; acceptance rate = 23%]
29. C. Bahlmann, X. Li*, K. Okada, *Local Pulmonary Structure Classification for Computer-aided Nodule Detection*, In proc. SPIE Medical Imaging Conferences, vol. 6144, pp. 1775-1785, San Diego, 2006
30. K. Okada, V. Ramesh, A. Krishnan, M. Singh, U. Akdemir, *Robust Pulmonary Nodule Segmentation in CT: Improving Performance for Juxtapleural Cases*, In proc. Int. Conf. Medical Image Computing and Computer Assisted Intervention (MICCAI), vol. II, pp. 781-789, Palm Springs, 2005 [acceptance rate = 37.3%]
31. T. Kubota and K. Okada, *Estimating diameters of pulmonary nodules with competition-diffusion and robust ellipsoid fit*, In proc. Int. Conf. Comp. Vision Workshop on Computer Vision for Biomedical Image Applications (CVBIA), pp. 324-334, Beijing, 2005
32. K. Okada, U. Akdemir*, A. Krishnan, *Blob Segmentation using Joint Space-Intensity Likelihood Ratio Test: Application to 3D Tumor Segmentation*, In proc. IEEE Conf. on Computer Vision and Pattern Recognition (CVPR), vol. II, pp. 437-444, San Diego, 2005 [oral; acceptance rate = 6.5%]
33. K. Okada, D. Comaniciu, A. Krishnan, *Robust 3D Segmentation of Pulmonary Nodules in Multislice CT Images*, In proc. Int. Conf. Medical Image Computing and Computer Assisted Intervention (MICCAI), vol. II, pp. 881-889, Saint-Malo, 2004 [acceptance rate roughly 40%]
34. K. Okada, D. Comaniciu, A. Krishnan, *Scale Selection for Anisotropic Scale-Space: Application to Volumetric Tumor Characterization*, In proc. IEEE Computer Society Conf. on Computer Vision and Pattern Recognition (CVPR), vol. I, pp. 594-601, Washington D.C., 2004 [oral; acceptance rate = 6.2%]
35. K. Okada, D. Comaniciu, N. Dalal, A. Krishnan, *A Robust Algorithm for Characterizing Anisotropic Local Structures*, In proc. European Conference on Computer Vision (ECCV), vol. I, pp. 549-561, Prague, 2004 [acceptance rate = 26.8%]
36. M. Huesken, M. Brauckmann, S. Gehlen, K. Okada, C. von der Malsburg, *Evaluation of implicit 3D modeling for pose invariant face recognition*, In proc. SPIE Defense and Security Symposium, vol. 5404, pp. 328, Orlando, 2004
37. N. Serrano, A. Ortega, S. Wu, K. Okada, and C. von der Malsburg, *Compression for distributed face recognition*. In proc. Multimodal User Authentication Workshop (MMUA), Santa Barbara, 2003
38. X. Tang*, K. Okada, and C. von der Malsburg, *A Joint Statistical Approach for Geon Detection*, In proc. International Conference on Cognitive and Neural Systems (ICCNS), Boston, 2002
39. K. Okada and C. von der Malsburg, *Pose-Invariant Face Recognition with Parametric Linear Subspaces*, In proc. International Conference on Automatic Face and Gesture Recognition (AFGR), pp. 64-69, Washington DC, 2002 [acceptance rate = 42.5%]

40. K. Okada and C. von der Malsburg, *Analysis and Synthesis of Human Faces with Pose Variations by a Parametric Piecewise Linear Subspace Method*, In proc. IEEE Computer Society Conf. on Computer Vision and Pattern Recognition (CVPR), vol. I, pp. 761-768, Kauai, 2001 [acceptance rate = 22%]
41. K. Okada, L. Kite, and C. von der Malsburg, *An Adaptive Person Recognition System*, In proc. IEEE International Workshop on Robot-Human Interactive Communication (ROMAN), pp. 436-441, Bordeaux Paris, 2001
42. K. Okada, S. Akamatsu, and C. von der Malsburg, *Analysis and Synthesis of Pose Variations of Human Faces by a Linear PCMAP Model and its Application for Pose-Invariant Face Recognition System*, In proc. International Conference on Automatic Face and Gesture Recognition (AFGR), pp. 142-149, Grenoble, 2000 [acceptance rate = 52%]
43. N. Futamura, K. Okada, S. Akamatsu, K. Mori, and Y. Suenaga, *An ICA based Representation of Facial Images and its Application for Face Recognition Systems*, In proc. IEICE workshop on Pattern Recognition and Media Understanding, (PRMU99-180), pp. 21-28, Ehime, 1999
44. K. Okada, C. von der Malsburg, and S. Akamatsu, *A Pose-Invariant Face Recognition System using Linear PCMAP Model*, In proc. IEICE workshop on Human Information Processing (HIP99-48), pp. 7-12, Okinawa, 1999
45. K. Okada and C. von der Malsburg, *Automatic Video Indexing with Incremental Gallery Creation: Integration of Recognition and Knowledge Acquisition*, In proc. International Conference on Knowledge-Based Intelligent Information Engineering Systems (KES), pp. 431-434, Adelaide, 1999

Refereed Abstracts & Posters: (7)

1. S. Courey, N. Lam-Miller, X. Shao, K. Okada, *Web-based Tools for Enhancing Teacher Preparation Programs*, OSEP Project Director's Conference, Washington DC, 2009
2. K. Okada, S. Courey, *Evidence-Based Strategies in Every Lesson Plan: The Lesson Plan Creator*, OSEP Project Director's Conference, Washington DC, 2008
3. J. Martin-Malivel and K. Okada, *Human and Chimpanzee Face Processing in Chimpanzees*, International Conference on Comparative Cognition (CO3), Florida, 2007
4. M. Naderhouser, M. C. Mangini, I. Biederman, and K. Okada, *Matching face-like objects is invariant to differences in direction of contrast*, In proc. 10th Annual Workshop on Object Perception and Memory (OPAM), Kansas City, 2002
5. K. Okada and C. von der Malsburg, *Automatic Video Indexing with Incremental Gallery Creation: Integration of Recognition and Knowledge Acquisition*, In proc. ATR Symposium on Face and Object Recognition, pp. 153-154, Kyoto, 1999
6. C. von der Malsburg, K. Reiser, G. Peters, J. Wieghardt, and K. Okada, *3D Object Representation by 2D Views*, In proc. ATR Symposium on Face and Object Recognition, pp. 11-12, Kyoto, 1999
7. K. Okada, *Improving Recognition Performance for Duplicate Facial Images*, NATO ASI, Stirling, 1997

Non-refereed Abstracts & Posters: (14)

1. T. Sun*, K. Okada, S. Courey, *Automatic Lesson Planner*, College of Science and Engineering Project Showcase, San Francisco, 2011
2. M. Suzuki*, K. Okada, *Multi-organ segmentation with missing organs: atlas-guided approach*, College of Science and Engineering Project Showcase, San Francisco, 2011
3. N. Timilsina*, K. Okada, *Development of A Stained Cell Nuclei Counting System*, College of Science and Engineering Project Showcase, San Francisco, 2010 (**Third place award in graduate physical science category**)
4. Y. Zhao*, K. Okada, *Machine Learning Based Medical Image Registration*, College of Science and Engineering Project Showcase, San Francisco, 2010
5. T. Sun*, K. Okada, S. Courey, *Automatic Lesson Planner*, College of Science and Engineering Project Showcase, San Francisco, 2010
6. M. Kafai*, Y. Miao*, K. Okada, *Directional Mean Shift*, College of Science and Engineering Project Showcase, San Francisco, 2009 (**First place award in graduate physical science category**)
7. X. Shao*, N. Lam-Miller*, K. Okada, *Web-based Tools for Enhancing Teacher Preparation Programs*, College of Science and Engineering Project Showcase, San Francisco, 2009
8. S. Rysavy*, A. Flores*, R. Enciso, K. Okada, *Segmentation of Large Periapical Lesions toward Dental Computer-Aided Diagnosis in Cone-Beam CT scans*, College of Science and Engineering Project Showcase, San Francisco, 2008 (**Third place award in graduate physical science category**)
9. A. Flores*, S. Rysavy*, R. Enciso, K. Okada, *Classification of Large Periapical Lesions*, College of Science and Engineering Project Showcase, San Francisco, 2008 (**Honorable mention award in graduate physical science category**)
10. E. Yera*, K. Okada, C. Collins, P. Paris, *Computational Cancer Biomarker Discovery*, College of Science and Engineering Project Showcase, San Francisco, 2008
11. S. Rysavy*, A. Flores*, R. Enciso, K. Okada, *Segmentation of Periapical Lesions toward CAD Diagnosis in CBCT Scans*, CSU Biotechnology Symposium, Oakland, 2008
12. A. Flores*, S. Rysavy*, R. Enciso, K. Okada, *Classification of Periapical Lesions toward Dental Computer-Aided Diagnosis in CT Data*, CSU Biotechnology Symposium, Oakland, 2008
13. T. Goh*, R. West, K. Okada, *Vision-Based Detection of Visually Dissimilar Objects*, College of Science and Engineering Project Showcase, San Francisco, 2007 (**Honorable mention award in undergraduate physical science category**)

14. M. Naderhouser, M. C. Mangini, I. Biederman, and K. Okada, *The Matching of Smooth, Blobby Objects--but not Faces--Is Invariant to Differences in Contrast Polarity for both Naive and Expert Subjects*, In proc. University of Southern California Vision Symposium, Los Angeles, 2002

Non-refereed Technical Reports: (4)

1. K. Okada and C. von der Malsburg, *Pose-Invariant Face Recognition: Representing Known Persons by View-Based Statistical Models*, Technical Report #03-784, Computer Science Department, University of Southern California, 2003
2. K. Okada and C. von der Malsburg, *Parametric Piecewise Linear Subspace Method for Processing Facial Images with 3D Pose Variations*, Technical Report #03-783, Computer Science Department, University of Southern California, 2003
3. X. Tang*, K. Okada, and C. von der Malsburg, *Represent and Detect Geons by Joint Statistics of Steerable Pyramid Decomposition*, Technical Report #02-759, Computer Science Department, University of Southern California, 2002
4. K. Okada and M. J. Lyons, *On Gabor Wavelet-based Image Processing for Nissl-stained Rat Brain Slices*, Technical Report #02-756, Computer Science Department, University of Southern California, 2002

Theses: (3)

1. K. Okada, *Analysis, Synthesis and Recognition of Human Faces with Pose Variations*, Ph.D. Thesis, University of Southern California, Los Angeles, 2001
2. K. Okada, *Development of an Active Range Finder System and its Application to Human Face Recognition*, Master's Thesis, Graduate School of Human Informatics, Nagoya University, Japan, 1994
3. K. Okada and T. Inagaki, *Implementation of Autonomous Land Vehicle Controlled by Visual Information using Neural Network*, Bachelor's Thesis, Mechanical Engineering Department, Nagoya University, Japan, 1992

US Patents: (11)

1. X. Huang, A. Krishnan, K. Okada, X. Zhou, *Robust Click-Point Linking with Geometric Configuration Context: Interactive Localized Registration Approach* US7,903,857, Mar 8, 2011
2. C. Bahlmann, X. Li, K. Okada, *System and Method for Local Pulmonary Structure Classification for Computer Aided Nodule Detection* US7,764,819, July 17, 2010
3. J. Bi and S. Periaswamy and K. Okada et al., *System and Method for Computer Aided Detection Via Asymmetric Cascade of Sparse Linear Classifiers*, US7,756,313, July 13, 2010
4. K. Okada et al., *Volumetric Characterization Using Covariance Estimation From Scale-Space Hessian Matrices* US7,720,269, May 18, 2010
5. H. Ling and K. Okada, *Diffusion Distance for Histogram Comparison* US7,715,623, May 11, 2010
6. K. Okada et al., *Prior-Constrained Mean Shift Analysis* US7,680,335, Mar 16, 2010
7. K. Okada et al. *Scale-Selection for Anisotropic Scale-Space: Application to Volumetric Tumor Characterization* US 7,616,792, November 10, 2009
8. T. Kubota and K. Okada., *Estimation of Solitary Pulmonary Nodule Diameters with a Hybrid Segmentation Approach* US 7,590,273, September 15, 2009
9. M. Singh, K. Okada et al. *Systems and methods for face detection and recognition using infrared imaging* US 7,542,592, June 2, 2009
10. K. Okada. et al., *System and method for volumetric tumor segmentation using joint space-intensity likelihood ratio* US7,430,321, September 30, 2008
11. K. Okada, D. Comaniciu, L. Bogoni, *Method for Robust Scale-Space Analysis of 3D Local Structures in Medical Images* US 7,308,132, December 11, 2007

Pending Patents (US and International): (2)

1. K. Okada et al., *Refined Segmentation of Nodules for Computer Assisted Diagnosis* (2006) U.S. Serial No. 11/396,854 (Also filed in Germany, China, and Japan)
2. K. Okada et al., *3D Segmentation of Targets in Multislice Images* (2004) U.S. Serial No. 10/991,683

Invited Lectures: (18)

1. IBM Almaden Research Center (Nov 2010) *Robust Data Analyses for Computer-Aided Diagnosis of Lung Cancers*
2. Microsoft Research Asia, Beijing (Sep 2010) *Local 3D Topology Type Classification in Chest CT*
3. Radiology and Imaging Science Research, National Institute of Health Clinical Center, Washington DC (Jan 2009)
4. Computer Science Colloquia, University of Bonn, Bonn, Germany (May 2008)
5. Biomedical Engineering Department, Rutgers University New Brunswick, USA (Apr 2008) *Robust Analyses of Lung Nodules in CT Scans using Mean Shift*
6. Invited Tutorial, IPSJ Computer Vision and Image Media Workshop, Kanazawa, Japan (Mar 2008) *Mean Shift from Theory to Application*
7. The 4th International Seminar on Primordial Knowledge Model, Kyoto University, Kyoto, Japan (Jan 2008) *Mean Shift Framework for Robust Analysis of Lung Nodules in CT Scans*
8. Graduate School of Natural Science Seminar, Nagoya City University, Nagoya, Japan (Jan 2008) *Mean Shift Framework for Robust Analysis of Lung Nodules in CT Scans*

9. Asilomar Microcomputer Workshop, Asilomar, USA (April 2007) *About Face*
10. School of Engineering and Physics, Herriot-Watt University, Edinburgh, UK (Jan 2007) *Robust Click-Point Linking: Matching Visually Dissimilar Objects*
11. Computer Science Department, San Francisco State University, USA (Nov 2006) *Interactive Intelligent Computing*
12. Siemens Corporate Research, Princeton, USA (May 2006) *Robust Click-Point Linking*
13. Thoracic Imaging, University of California Los Angeles, Los Angeles, USA (Mar 2006) *Robust & Efficient Medical Image Analysis for Lung Nodule Segmentation*
14. Computer Science Department, San Francisco State University, San Francisco, USA (Mar 2006) *Computing for Medical Imaging: Robustness & Efficiency*
15. Electrical and Computer Engineering Department, University of California at San Diego, San Diego, USA (Nov 2002) *Gabor Wavelet-based Face Recognition and Beyond*
16. Siemens Corporate Research, Princeton, USA (Aug 2002) *Gabor Wavelet-based Face Recognition and Beyond*
17. ST Microelectronics, San Diego, USA (Mar 2002) *Gabor Wavelet-based Face Recognition and Beyond*
18. Lau Technologies, Boston, USA (Mar 2001) *Analysis, Synthesis and Recognition of Human Faces with Pose Variations*
19. Eyematic Interface Inc., Los Angeles, USA (Mar 2001) *Analysis, Synthesis and Recognition of Human Faces with Pose Variations*

7. Honors and Awards

- Third Place Award in Graduate Physical Science Category (2009), College of Science and Engineering Project Showcase
- Travel Grant Award (2009), CSU Program for Education and Research in Biotechnology (CSUPERB, funded \$1000)
- First Place Award in Graduate Physical Science Category (2009), College of Science and Engineering Project Showcase
- Honorable Mention Award for Best Poster (2008), SPIE Medical Imaging Conference, San Diego
- Third place and Honorable Mention Awards in Graduate Physical Science Category (2008), College of Science and Engineering Project Showcase
- Honorable Mention Award in Undergraduate Physical Science Category (2007), College of Science and Engineering Project Showcase
- Vice President Assigned Time Award (2007), Professional Development Council, San Francisco State University (funded \$8,000)
- Fellowship Award (2006), *A Novel Approach to Image Restoration: Exploring Recurring Pattern*, Erasmus Mundus in Vision and Robotics (funded Euro 14,000)
- Graduate Research Assistantship (1995-2001), Computer Science Department, USC, Los Angeles, USA

8. Research Grants

- PI: Research Seed Mini Grant Award (2009), *Multi-Organ Analysis of CT Scans for Patients with Missing and Abnormal Organs*, Center for Computing for Life Sciences, San Francisco State University (funded \$5000) K. Okada
- Co-PI: Research Mini Grant Award (2009), *Fostering Mathematics Education Research And its Application to Practice*, Center for Science and Mathematics Education (funded \$4500), S. Courey and K Okada
- PI: Research Seed Mini Grant Award (2007), *Facial Expression Analysis for Comparative Studies of Autism in Human and Nonhuman Primates*, Center for Computing for Life Sciences, San Francisco State University (funded \$4000) K. Okada
- Co-PI: Office of Special Education Programs for Special Education Preservice Training Improvement (CFDA 84.325T) (2007-2011), *Restructuring the Level I Credential Program to Prepare Highly Qualified Teachers To Teach Students with High Incidence Disabilities in Culturally Diverse Urban Public Schools using the Response to Intervention (RTI) Model*, US Department of Education (funded \$128,252; the total funding of \$448,882) Sue Courey (PI), Pamela LePage, K. Okada
- PI: CSUPERB Research Seed Grant Award (2007), *Computer-Assisted Image Analysis for Differential Diagnosis for Dentistry*, California State University Program for Education and Research in Biotechnology (funded \$13,500) K. Okada and R. Enciso
- PI: Research Seed Mini Grant Award (2006), *Large Scale Causality Networks for Human Stem Cell Data and Computer-Assisted 3D Image Analysis for Dentistry*, Center for Computing for Life Sciences, San Francisco State University (funded \$10,000) K. Okada and I. Yoon.
- PI: Research Seed Mini Grant Award (2006), *A Web-based Collaborative Tool for 3D Medical Image Annotation and Validation*, Professional Development Council, San Francisco State University (funded \$5,000)
- Co-PI: Venture Grant (01/2004 - 12/2005), *Sex discrimination across the menstrual cycle: A comparative study in chimpanzees and rhesus monkeys* Center for Behavioral Neuroscience, NSF (funded \$7700; the total funding of \$30,850) J. Martin-Malivel (PI), A. Lacreuse, K. Okada, M. Mangini

9. Research Grants in Preparation

- *Multi-Organ Segmentation with Missing Organ in Abdominal CT Images*, resubmitted to NIH-SC2 (2011, PI)
- *Collaborative Research: Transforming the Understanding, Assessment and Prediction of Teamwork Effectiveness in Software Engineering Education using Machine Learning*, resubmitted to NIH TUES (2011, co-PI)

- *THINK: Translational Hyper-Linked Knowledge Infrastructure*, A collaboration with Dr. Reyes Enciso at University of Southern California and Dr. Zoe Lacroix at Arizona State University, submitted and rejected by NIH Challenge Grants in Health and Science Research (2009, RFA-OD-09-003, co-PI) and NIH R21 (2010, co-PI), in preparation for resubmission, 2011

10. Professional and Civic Activities

- Member, IEEE and IEEE Computer Society
- Member, ACM
- Member, SPIE
- Member, MICCAI Society
- *Associate Editor* (2010 – Current) IPSJ Transaction on Computer Vision and Applications
- *Organizing Committee Member*
 - MICCAI 2011 Workshop on Computational and Clinical Applications in Abdominal Imaging, 2011
- *Program Committee Member*
 - Mirage: International Conference on Computer Vision /Computer Graphics Collaboration, 2007, 2009, 2011
 - Second International Workshop on Machine Learning in Medical Imaging (MLMI), 2011
 - MCBR-CDS 2011: Medical Content-based Retrieval for Clinical Decision Support, 2011
- Served as a reviewer of Journals and Conferences on Computer Vision and Medical Imaging Professing (2003 – Current)
 - IEEE Transaction on Pattern Analysis and Machine Intelligence
 - IEEE Transaction on Medical Imaging
 - IEE Proceedings Vision, Image and Signal Processing
 - Computer Vision and Image Understanding Journal
 - Neural Computation Journal
 - Image and Vision Computing
 - Pattern Recognition
 - EURASIP Journal on Image and Video Processing
 - International Conference on Medical Image Computing and Computer-Assisted Intervention
 - International Conference on Computer Vision
 - IEEE Conference on Computer Vision and Pattern Recognition
 - European Conference on Computer Vision
 - Asian Conference on Computer Vision
 - International Conference on Pattern Recognition
 - International Conference on Artificial Neural Network
 - International Conference on Independent Component Analysis
 - International Workshop on Medical Imaging and Augmented Reality
 - Mirage: International Conference on Computer Vision /Computer Graphics Collaboration

11. Student Mentees

San Francisco State University: (21)

Master's Theses Completed: (11)

1. Steven Rysavy (MS, CS), May 2008, Thesis: *Segmentation of Periapical Lesions*, **Recipient of the ARCS Scholarship**, Now at University of Washington, Biomedical and Health Informatics Department, **Distinguished achievement honor**
2. Arturo Flores (MS, CS) May 2008, Thesis: *Classification of Large Periapical Lesions*, Recipient of the LS-AMP Scholarship, Now at University of California at San Diego, Computer Science Department
3. Edgar Liu (MS, CS), May 2008, Thesis: *MICA: 3D Medical Image Collaborative Annotator*, Now at SONY Taiwan.
4. Rodrigo Salas (MS CS), Feb 2009, Thesis: *Development of CAD System for Periapical Lesions*, Now at Qualcomm
5. Yiyi Miao (MS, CS), Feb 2009, Thesis: *Pulmonary Structure Classification Using Bayesian Framework*, Now at OPSWAT, San Francisco, **Distinguished achievement honor**
6. Mehran Kafai (MS, CS), May 2009, Thesis: *Directional Mean Shift*, **First Prize at COSE Research Showcase**, Now at University of California at Riverside, **Distinguished achievement honor**
7. Xinhang Shao, (MS, CS), Oct 2009, Thesis: *A Web-based Lesson Plan Creator for Mild/Moderate Special Education Program at SFSU*
8. Ngoc Lam-Miller, (MS, CS) Oct 2009, Thesis: *An Electronic Portfolio and Assessment management System*, **Distinguished achievement honor**
9. Yang Zhao, (MS, CS) May 2010, Thesis: *Machine Learning Based Medical Image Registration*
10. Niranjan Timilsina, (MS, CS) Sep 2010, Thesis: *Development of A Stained Cell Nuclei Counting System*, **Third Prize at COSE Research Showcase**
11. Runtang Wang, (MS, CS) Feb 2011, Thesis: *Improvement of E-portfolio and Lesson Plan Creation Tool for Mild/Moderate Special Education Programs at SFSU*, Now at The Mind Research Network, New Mexico, **Distinguished achievement honor**

Current Graduate Students: (6)

- Tingting Sun (Master's student, CS), May 2009 – current
- Miyuki Suzuki (Master's student, CS), Jan 2010 – current
- Cassidy Kelly (Master's student, CS), Jan 2010 – current, Twice recipients of the ARCS Scholarship
- Gavin Dodd (Master's student, CS), Aug 2010 – current
- Sergey Sergeev (Master's student, CS), Aug 2010 – current
- John Collins (Master's student, CS), Jan 2011 - current

Undergraduate Students: (5)

- Taeil Goh (BS, CS), Nov 2006 – Dec 2007, Recipient of the C.Y. Chow Memorial Scholarship, Now at OPSWAT
- Ryan West (BS, CS), Jan 2007 – Aug 2007
- Sean Todd (BS, CS), May 2007 – May 2008
- David Wang (BS, CS), Oct 2007 – Dec 2008
- Andrew Scott (BS, CS), Jan 2009 – May 2010

University of California at Los Angeles: (1)

Biomedical Physics Interdepartmental Graduate Program

- Jing Huo (Ph.D. Student), Feb 2008 - current, Co-supervised with Dr. Matthew Brown

Siemens Corporate Research: (3)

- Umut Akdemir, Graduate Internship Student, 2004 (May-Sep), Now at ASPOne
- Xianlin Li, Undergraduate Internship Student, 2005 (Jun-Aug), Now at Harvard University
- Haibin Ling, Graduate Internship Student, 2005 (May-Sep), Now at Temple University
- Andre Hegerath, Graduate Internship Student, 2006 Spring with Dr. Chenyang Xu and Dr. Yiyong Sun