

Biographical Sketch

JungHwan Oh

Computer Science and Engineering
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Professional Preparation

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| • Seoul National University, Seoul, Korea. | Civil Engineering | B.S. (1985) |
| • University of Central Florida | Computer Science | M.S. (1998) |
| • University of Central Florida | Computer Science | Ph. D. (2000) |

Appointments

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| 1. Assistant Professor | Computer Science & Engineering
University of North Texas | 2006 –Present |
| 2. Assistant Professor | Computer Science & Engineering
University of Texas at Arlington | 2001 – 2006 |
| 3. Visiting Professor | Computer Science
University of Central Florida | 2000 – 2001 |
| 4. DBMS Programmer &
Maintenance Specialist | Office of Research
University of Central Florida | 1996 – 2000 |
| 5. Research Assistant | Database System Lab
University of Central Florida | 1995 – 2000 |
| 6. Director & Instructor | DongIn Computer & Math Institution
Pusan, Korea. | 1990 – 1992 |
| 7. Section Director | Samsung Construction Company, LTD
Seoul, Korea | 1985 – 1990 |

Research Interests

8. Medical Image and Video Analysis, Video Database Management Systems, and Image Database Management Systems.
9. He has established a medical video research with the collaboration of Mayo Clinic at Rochester, Minnesota, and Iowa State University, Ames, Iowa in 2003. This research focuses on the medical video (colonoscopy, endoscopy, bronchoscopy, minimal access surgery, etc.) analyses such as video segmentation, blurry frame detection, reflection detection, operational tool detection, abnormal disease detection, and multimedia database building.
10. Recently, he has initiated a medical multimedia research about Capsule Endoscopy with the collaboration of University of Texas Southwestern Medical Center at Dallas, Texas. This research focuses image enhancement, abnormal disease detection and 3-D visualization.

Current and Pending Supports

1. 2009-2012: III: Medium: Collaborative Research: Computer Guided Quality Control System for Colonoscopy, \$295,900, National Science Foundation, (PI, pending).
2. 2009-2011: III: Small: Collaborative Research: Smart Browsing System for Wireless Capsule Endoscopy, \$242,543, National Science Foundation, (PI, pending).
3. 2009-2014: Real-time, automated feedback to improve colonoscopy quality. \$538,201, National Institute of Health, (PI, pending).

4. 2009-2012: Improving Colonoscopy Quality through Automated Monitoring, \$184,058, National Institute of Health, (PI, pending).
5. 2009: Toward Real-Time Computer-Aided Quality Monitoring of Colonoscopy, NSF STTR (University partner), 01/09 – 12/09, \$24,521. (PI, Current)
6. 2008-2009: Video Analysis Techniques for Computer-Aided Quality Control for Colonoscopy, NSF STTR (University partner), 05/08 – 05/09, \$46,567. (PI, Current)
7. 2008-2010: Computer-aided Diagnosis for gastrointestinal Bleeding using Wireless Capsule Endoscopy, \$112,944, THECB-Advanced Research Program, (Co-PI, current).
8. 2008-2009: Optimization of Medical Image Analysis using Graphics Processing Units, Faculty Research Grant (Research Opportunities Program (ROP)), \$5,000, University of North Texas. (PI, current).
9. 2008: Developing Smart View Module in Wireless Capsule Endoscopy Videos, \$10,000, University of Bridgeport, (Consultant, current).

Completed Supports

1. 2008: Objective Quality Control System for Colonoscopy. Junior Faculty Summer Research Fellowship for Summer 2008, \$5,000. University of North Texas. (PI).
2. 2007: Objective Quality Control System for Colonoscopy. Junior Faculty Summer Research Fellowship for Summer 2007, \$5,000. University of North Texas. (PI).
3. 2005-2008: SEI: Endoscopic Multimedia Information System (EMIS), National Science Foundation, \$202,297 (PI).
4. 2007-2008: REU Supplement for “SEI: Endoscopic Multimedia Information System (EMIS)”, *National Science Foundation*, \$16,303, May 2007 – May 2008 (PI in UNT).
5. 2002-2005: Acquisition of High-Performance Distributed Computing and Storage Infrastructure at UTA, National Science Foundation, \$950,000 (Co-PI).
6. 2003-2004: REP: Medical Multimedia Database Management System for Colonoscopy. University of Texas at Arlington, \$10,000 (PI).

Patents under review

1. *Intelligent Multimedia Processing and Analysis Tools for Colorectal Tumors (IMPACT)* with Mayo Clinic and Iowa State University.

Journals and Book Chapters

1. JungHwan Oh, Sae Hwang, Yu Cao, Wallapak Tavanapong, Danyu Liu, Johnny Wong and Piet C. de Groen. “Measuring Objective Quality of Colonoscopy”. *IEEE Transactions on Biomedical Engineering*. (accepted for publication).
2. D. Liu, Y. Cao, K. Kim, S. Stanek, B. Dounggratanaex-chai, K. Lin, W. Tavanapong, J. Wong, J. Oh, and P. C. de Groen. "Arthemis: Annotation Software in an Integrated Capturing and Analysis System for Colonoscopy". *Journal of Computer Methods and Programs in Biomedicine*. Nov. 2007, vol. 88, No. 2, pp152-163.
3. M. Zhang, J. Wong, W. Tavanapong, J. Oh, and P. C. de Groen. “Deadline-Constrained Media Uploading Systems”. *Journal of Multimedia Tools and Applications*. 2008, 38:51-74. Online version available at (<http://www.springerlink.com/content/275180p0555x10r6/fulltext.pdf>).
4. Y. Cao, D. Liu, W. Tavanapong, J. Wong, J. Oh, and P. C. de Groen. “Computer-aided Detection of Biopsy and Therapeutic Operations in Colonoscopy Videos”. *IEEE Transactions on Biomedical Engineering*, 54(7): 1268-1279, July 2007.
5. JungHwan Oh, Sae Hwang, JeongKyu Lee, W. Tavanapong, Piet C. de Groen, and Johnny Wong. “Informative Frame Classification for Endoscopy Video”. *Journal of Medical Image Analysis* 2007 Apr;11(2):110-27. Epub 2007 Feb 27.

6. JungHwan Oh, JeongKyu lee and Sae Hwang. "Video Data Mining: Current Status and Challenges". *Encyclopedia of Data Warehousing and Mining*. (A book edited by Dr. John Wang). Idea Group Inc. and IRM Press. pp. 1185-1189. 2005.
7. JungHwan Oh, Quan Wen, JeongKyu lee and Sae Hwang. "Video Abstraction". *Video Data Mangement and Information Retrieval*. (A book edited by Sagarmay Deb). Idea Group Inc. and IRM Press. pp. 321-346. 2004.
8. JungHwan Oh, JeongKyu Lee, Sanjaykumar Kote and Babitha Bandi. "Multimedia Data Mining Framework for Raw Video Sequences". *Mining Multimedia and Complex Data*, published by Springer Verlag, Lecture Notes in Artificial Intelligence Volume 2797, pp. 18-35. 2003.
9. JungHwan Oh, JeongKyu Lee and Sae Hwang. "An Efficient Method for Detection of Key Objects in Video shots with Camera Motions". *Colombian Journal of Computation*. Vol.4, No.1. pp.35-56. Sep. 2003.
10. Kien A. Hua, JungHwan Oh, and Khanh Vu. "An Adaptive Video Multicast Scheme for Varying Workloads". *ACM-Springer Multimedia Systems (Journal)*. Volume 8, Issue 4. pp. 258-269. August, 2002.
11. JungHwan Oh and Praveen Sankuratri. "Computation of Motion Activity Descriptors in Video Sequences". *Advances in Multimedia, Video and Signal Processing Systems (A Book edited by Nikos E. Mastorakis and Vitaliy V. Kluev)*. WSEAS Press, 2002. pp.139 -144.

Refereed Conference Papers

1. S. Hwang, J. Oh, W. Tavanapong, J. Wong, and P. C. de Groen. "Stool Detection in Colonoscopy Videos". *Proc. of International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC)*, Vancouver, British Columbia, Canada, August, 2008. pp. 3004-3007.
2. Y. Wang, W. Tavanapong, J. Wong, J. Oh, and P. C. de Groen. "Edge Cross-Section Features for Detection of Appendiceal Orifice Appearance in Colonoscopy Videos". *Proc. of International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC)*, Vancouver, British Columbia, Canada, August, 2008. pp. 3000-3003.
3. B. Giritharan, X. Yuan, J. Liu, B. Buckles J. Oh, and S. J. Tang. "Bleeding Detection from Capsule Endoscopy Videos". *Proc. of International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC)*, Vancouver, British Columbia, Canada, August, 2008.
4. S. Stanek, W. Tavanapong, J. Wong, J. Oh, and P. C. de Groen. "Automatic Real-Time Capture and Segmentation of Endoscopy Video. PACS and Imaging Informatics". *SPIE Medical Imaging*. February, 2008.
5. S. Hwang, J. Oh, W. Tavanapong, J. Wong, and P. C. de Groen. "Polyp Detection in Colonoscopy Video Using Elliptical Shape Feature". *IEEE Int'l Conf. on Image Processing*. pp. 465-468. San Antonio, Texas, September 2007.
6. D. Liu, Y. Cao. W. Tavanapong, J. Wong, J. Oh, and P. C. de Groen, "Quadrant Coverage Histogram: A New Method for Measuring Quality of Colonoscopy Procedures". *Proc. Of IEEE EMBC 2007*, Lyon, France, pp. 3470-3473, August 2007.
7. Xiaohui Yuan, Balathasan Giritharan, and JungHwan Oh. "Gradient Vector Flow Driven Active Shape for Image Segmentation". *Proc. of International Conference on Multimedia & Expo (ICME 2007)*. pp. 2058-2061, July 2-5, Beijing, China.
8. P. C. de Groen, W. Tavanapong, J. Oh, and J. Wong. Computer-aided Quality Control for Colonoscopy: Automatic Documentation of Cecal Intubation: *Digestive Disease Week 2007*, Washington DC, May 2007.
9. D. Liu, Y. Cao. W. Tavanapong, J. Wong, J. Oh, and P. C. de Groen. "Mining Colonoscopy Videos to Measure Quality of Colonoscopic Procedures". *Proc. of The fifth IASTED Int'l Conf. on Biomedical Engineering (BioMED 2007)*, pages 409-414, Feb. 14-16, 2007, Innsbruck, Austria.

10. JeongKyu Lee, JungHwan Oh, Xiaohui Yuan, and Shou-jiang Tang. "Automatic Classification of Digestive Organs in Wireless Capsule Endoscopy Videos". *Proc. of The 22nd Annual ACM Symposium on Applied Computing 2007*. pages 1041-1045, Seoul, Korea, March 11 - 15, 2007.
11. Afrin Naz, Krishina Kavi, JungHwan Oh, and Pierofrancesco Foglia. "Reconfigurable Split Data Caches: A Novel Scheme for Embedded Systems". *Proc. of The 22nd Annual ACM Symposium on Applied Computing 2007*. 707-712, Seoul, Korea, March 11 - 15, 2007.
12. Sae Hwang, JungHwan Oh, Wallapak Tavanapong, Johnny Wong, and Piet C. de Groen. "Automatic Polyp Segmentation for Colonoscopy Image using Watershed Algorithm and Ellipse Fitting Method". *Proc. of SPIE International Symposium, Medical Imaging 2007*. volume: 6514, pp. 65141D-1 ~ 12, February 17 - 22, 2007. San Diego, California.
13. P. C. de Groen, J. Oh, and W. Tavanapong. "Objective Quality Control for Colonoscopy: Automated Extraction of Endoscopic Metrics From Video Files". *American College of Gastroenterology. President's Plenary Session*, October 2006.
14. Y. Cao, D. Liu, W. Tavanapong, J. Wong, J. Oh, and P. C. de Groen. "Automatic Classification of Images with Appendiceal Orifice in Colonoscopy Videos". *Proc. of IEEE Engineering in Medicine and Biology Conference (EMBC)*, pp. 2349-2352, New York City, August 2006.
15. Sae Hwang, JungHwan Oh, Jay Cox, Shou-jiang Tang, and Harry F. Tibbals. "Blood Detection in Wireless Capsule Endoscopy using Expectation Maximization Clustering". *SPIE International Symposium, Medical Imaging 2006*. 11 - 16 February 2006. San Diego, California.
16. JeongKyu Lee, JungHwan Oh and Sae Hwang, "Scenario based Dynamic Video Abstractions using Graph Matching". *Proc. of The 13th ACM International Conference on Multimedia (ACM Multimedia 2005)*. pp. 810-819. Nov. 6 - 12, 2005. Singapore.
17. Sae Hwang, JungHwan Oh, JeongKyu Lee, Yu Cao Danyu Liu, Wallapak Tavanapong, Piet C. de Groen, Johnny Wong, "Automatic Measurement of Quality Metrics for Colonoscopy Videos". *Proc. of The 13th ACM International Conference on Multimedia (ACM Multimedia 2005)*. pp. 912-921. Nov. 6 - 12, 2005. Singapore.
18. JeongKyu Lee, JungHwan Oh, and Sae Hwang. "Clustering of Video Objects by Graph Matching". *Proc. of 2005 IEEE International Conference on Multimedia and Expo (ICME 2005)*. pp. 394-397. July 6 -8, 2005. Amsterdam, Netherlands.
19. JeongKyu Lee, JungHwan Oh, and Sae Hwang. "STRG-Index: Spatio-Temporal Region Graph Indexing for Large Video Databases". *Proc. of 2005 ACM SIGMOD Intl. Conf. on Management of Data*. pp. 718-729. June 14 - 16, 2005. Baltimore Maryland.
20. P. C. de Groen, W. Tavanapong, J. Oh, and J. S. Wong. "Computer-Aided Detection Of Biopsies and Therapeutic Operations in Colonoscopy Videos". *Digestive Disease Week 2005. ASGE Poster Session NEW TECHNOLOGY ASGE*. May 15-20, 2005, McCormick Place, Chicago, USA.
21. Yong Han An, JungHwan Oh, Sae Hwang, Wallapak Tavanapong, Piet C. de Groen and Johnny Wong. "Informative-Frame Filtering in Endoscopy Videos". *SPIE International Symposium, Medical Imaging 2005*. pp. 291-302. 13 - 18 February 2005. San Diego, California.
22. P. C. de Groen, J. Oh, W. Tavanapong, J. Wong. "Computer-generated, Digital, Multimedia Database for Colonoscopy". *Digestive Disease Week 2004. ASGE Poster Session NEW TECHNOLOGY ASGE*. May 15-20, 2004, New Orleans, USA.
23. Yu Cao, Dalei Li, Wallapak Tavanapong, JungHwan Oh, Piet C. de Groen, and Johnny Wong. "Parsing and Browsing Tools for Colonoscopy Videos". *The 12th ACM International Conference on Multimedia (ACM Multimedia 2004)*. pp. 844-851. New York, NY. Oct. 10-16, 2004.

24. Mu Zhang, Johnny Wang, Wallapak Tavanapong, JungHwan Oh and Piet de Greon. "Media Uploading Systems with Hard Deadlines". *The 8th International Conference on Internet and Multimedia Systems and Applications (IMSA 2004)*. pp. 305-310. August 16-18, 2004. Kauai, Hawaii, USA.
25. Hyoil Han and JungHwan Oh, "Semantic Web Mining", *The 2004 International Conference on Information and Knowledge Engineering (IKE'04)*. Pp. 75–81. June 21-24, 2004, Las Vegas, Nevada, USA
26. Yu Cao, Wallapak Tavanapong, Dalei Li, JungHwan Oh, Piet C. de Groen, and Johnny Wong. "A Visual Model Approach for Parsing Colonoscopy Videos". *The 3rd International Conference on Image and Video Retrieval (CIVR2004)*, Dublin City University, Ireland, on 21-23 July 2004.
27. Yu Cao, Wallapak Tavanapong, Kihwan Kim, Johnny Wong, JungHwan Oh, and Piet C. de Groen. "A Framework for Parsing Colonoscopy Videos for Semantic Units". *Proceeding of The 2004 IEEE International Conference on Multimedia and Expo (ICME04)*. June 27-30, 2004. Taipei, Taiwan.
28. JungHwan Oh, Sae Hwang, Wallapak Tavanapong, Piet C. de Groen and Johnny Wong. "Burry Frame Detection and Shot Segmentation in Colonoscopy Videos". *IS&T/SPIE, Storage and Retrieval Methods and Applications for Multimedia 2004 (EI24)*. pp. 531-542. 18–22 January 2004, San Jose, California, USA.
29. JungHwan Oh, Sae Hwang and Quan Wen. "In-Depth Classification of Video Shots by Distinguishing Camera and Object Motions". *Proc. of the 3rd International Workshop on Content-based Multimedia Indexing (CBMI03)*. September 22 - 24, 2003. IRISA, Rennes, France.
30. JungHwan Oh, Praveen Sankuratri and Wallapak Tavanapong. "Efficient Measuring of Various Motions in MPEG Videos". *Proc. of the 9th IASTED International Conference on SIGNAL and IMAGE PROCESSING (SIP2003)*. pp. 217-222. August 13 - 15, 2003. Honolulu, Hawaii.
31. Y. Cao, W. Tavanapong, K. Kim and J. Oh. "Audio Assisted Scene Segmentation for Story Browsing". *Proc. of International Conference on Imaging and Video Retrieval*. July 2003. pp. 446-455. Urbana, IL.
32. JungHwan Oh, JeongKyu Lee and Sanjaykumar Kote. "Real Time Video Data Mining for Surveillance Video Streams". *Proc. of the seventh Pacific-Asia Conference on Knowledge Discovery and Data Mining (PAKDD-03)*. pp. 222-233. April 30 – May 2, 2003. Seoul, Korea.
33. JungHwan Oh, JeongKyu Lee and Eswar Vemuri. "Efficient Technique for Segmentation of Key Object(s) from Video Shots". *Proc of International Conference on Information Technology: Coding and Computing (ITCC 2003)*. pp. 384-388. April 28-30, 2003. Las Vegas, Nevada.
34. JungHwan Oh and Maruthi Thenneru. "Hierarchical Video Indexing Based on Changes on Camera and Object Motions". *Proc. of The Eighteenth Annual ACM Symposium on Applied Computing (SAC2003)*. p.917-921. Mar. 9-12, 2003. Melbourne, Florida, USA.
35. Ning Jiang, Kien A. Hua and JungHwan Oh. "Exploiting Pattern Relationship for Intrusion Detection". *Proc. of the 2003 International Symposium on Applications and the Internet (SAINT-2003)*. pp.200-208. Jan. 27-31, 2003. Orlnado, Florida.
36. JungHwan Oh and Nandakumar Baskaran. "An Efficient Technique for Video Shot Indexing Using Low Level Features". *Proc. of WORKSHOP ON MULTIMEDIA SEMANTICS 2002 in conjunction with 29th Annual Conference on Current Trends in Theory and Practice of Informatics (SOFSEM 2002)*. Nov. 24-29, 2002. Milovy, Czech Republic.
37. JungHwan Oh and Vasavi Gavirneni. "Automatic Generation of Motion Activity Descriptors in Video Sequences". *Proc. of Seventeenth International Symposium On Computer and Information Sciences (ISCIS XVII)*. pp. 49-53. Oct. 28-30, 2002. Orlando, FL.

38. JungHwan Oh and Praveen Sankuratri. "Computation of Motion Activity Descriptors in Video Sequences". *Proc. of the 2nd WSEAS International Conference on Multimedia, Internet and Video Technologies (WSEAS ICOMIV 2002)*. pp. 139-144. Sep. 25-28, 2002. Skiathos Island, Greece.
39. JungHwan Oh and Praveen Sankuratri. "Automatic Distinction of Camera and Objects Motions in Video Sequences". *Proc. of IEEE International Conference on Multimedia and Expo (ICME 2002)*. Volume:1, pp 81-84. Aug. 26-29, 2002. Lausanne, Switzerland.
40. JungHwan Oh and Babitha Bandi. "Multimedia Data Mining Framework for Raw Video Sequences". *Proc. of ACM Third International Workshop on Multimedia Data Mining (MDM/KDD2002)*. July 23 -26, 2002. Edmonton, Alberta, Canada.
41. JungHwan Oh and Tummala Chowdary. "An Efficient Technique for Measuring of Various Motions in Video Sequences". *Proc. of The 2002 International Conference on Imaging Science, Systems, and Technology (CISST'02)*. June 24-27, 2002. Las Vegas, Nevada.
42. JungHwan Oh. "Key Object(s) Extraction from Video Sequences using Color Quantization". *Proc. of the Second International Workshop on Intelligent Multimedia Computing and Networking (IMMCN2002)*. pp. 923-926, Mar. 8-12, 2002. Durham, North Carolina.
43. Khanh Vu, Kien A. Hua and JungHwan Oh. "Indexing for Efficient Processing of Noise-Free Queries". *Proc. of The 9th ACM International Multimedia Conference (ACM Multimedia '2001)*. pp. 509-511, Sep. 30- Oct. 5, 2001. Ottawa, Canada.
44. Kien A. Hua, JungHwan Oh and Khanh Vu. "Non-Linear Approach to Shot Boundary Detection". *IS&T/SPIE Conference on Multimedia Computing and Networking 2001*. pp. 1-12. Jan. 22-25, 2001. San Jose CA.
45. Khanh Vu, Kien A. Hua and JungHwan Oh. "A Noise-Free Similarity Model for Image Retrieval Systems". *Proc. of IS&T/SPIE conference on Storage and Retrieval for Media Databases*. pp. 1-11 Jan. 22-25, 2001. San Jose, CA.
46. JungHwan Oh and Kien A. Hua. "An Efficient and Cost-effective Technique for Browsing and Indexing Large Video Databases". *Proc. of 2000 ACM SIGMOD Intl. Conf. on Management of Data*. pp. 415-426. May 14 - 19, 2000. Dallas, Texas.
47. Kien A. Hua and JungHwan Oh. "Detecting Video Shot Boundaries up to 16 Times Faster". *The 8th ACM International Multimedia Conference (ACM Multimedia '2000)*. pp. 385-387. Oct. 30- Nov. 3, 2000. LA, CA.
48. JungHwan Oh, Kien A. Hua, Ning Liang. "A Content-based Scene Change Detection and Classification Technique using Background Tracking". *Proc. of IS&T/SPIE conference on Multimedia Computing and Networking 2000*. pp. 254-265 Jan. 24 - 28, 2000. San Jose CA.
49. JungHwan Oh and Kien A. Hua. "An Efficient Technique for Summarizing Videos using Visual Contents". *Proc. IEEE International Conference on Multimedia and Expo*. July 30 - August 2, 2000. pp. 1167-1170. Hilton New York & Towers, New York, NY, USA.
50. JungHwan Oh, Kien A. Hua, Kiran Prabhakara. "A New Broadcasting Technique for An Adaptive Hybrid Data Delivery in Wireless Mobile Network Environment". *Proc. of 19th IEEE International Performance, Computing and Communications Conference*. pp. 361-367. Feb. 20 - 22, 2000. Phoenix, Arizona.
51. Kiran Prabhakara, Kien A. Hua, JungHwan Oh. "Multi-Level Multi-Channel Air Cache Designs for Efficient Broadcast in a Mobile Environment". *Proc. of 2000 IEEE 16th international Conference on Data Engineering (ICDE '2000)*. pp. 167-176. Feb. 28 - Mar. 03, 2000. San Diego CA.
52. JungHwan Oh and Kien A. Hua. "A Practical Technique for Video Decomposing". *Proceedings of The 11th Conference of The Chinese- American Scholars Association of Florida*. pp. 38-45. July 21-23, 2000. Orlando, FL.
53. Kien A. Hua, Khanh Vu, JungHwan Oh. "SamMatch: A Flexible and Efficient Sampling-Based Image Retrieval Technique for Large Image Databases". *The 7th ACM International*

Multimedia Conference (ACM Multimedia '99). pp. 225-234. Oct. 30- Nov. 5, 1999. Orlando, Florida.

54. JungHwan Oh, Kien A. Hua, Khanh Vu. "An Adaptive Hybrid Technique for Video Multicast". *The 7th IEEE International Conference on Computer Communications and Networks*. pp. 227-234. October 12-15, 1998. Lafayette Louisiana.

Teaching Experiences

- Database Concepts (undergraduate level): Fall 2000 in University of Central Florida (UCF)
- Internet Publishing (undergraduate level): Fall 2000 in UCF
- Database Systems (undergraduate level): Spring 2001 in UCF
- Computer Fundamentals for Business (undergraduate level): Spring 2001 in UCF
- Multimedia Database Systems (graduate level): Fall 2001, Fall 2002, Fall 2003, Summer 2004, Spring 2005, Spring 2006, and Summer 2006 in UTA
- Introduction to Distributed and Parallel System (graduate level): Spring 2002, Spring 2003, Spring 2004, Summer 2004, and summer 2006 in UTA
- Multimedia and Network Research: What and How? (graduate level): Spring 2004, and Spring 2005 in UTA
- Database Systems and File Structures (undergraduate level): Fall 2004, and Fall 2005 in UTA
- Database System I (graduate level): Fall 2006 in UNT
- Multimedia Database Systems (graduate level): Spring 2007, Spring 2008, Spring 2009 in UNT
- Distributed and Parallel Database Systems (graduate level): Fall 2007, and Spring 2009 in UNT
- Multimedia Computing (undergraduate and graduate levels): Spring and Fall 2008 in UNT

Synergistic Activities

- Editorial Board
 - The proceeding of the 2004 International Conference on Information and Knowledge Engineering (IKE 04). Monte Carlo Resort, Las Vegas, Nevada, USA. June 21-24, 2004.
- NSF panel review: III Med Health Informatics Panel at NSF on 03/27/2007 through 03/28/2007.
- Organizational Committee
 - MDMM 2007: 1st International Workshop on Multimedia Data Mining and Management September 3 - 7 Regensburg, Germany in conjunction with 18th International Conference on DEXA 2007
- Program Committee
 - The Third International Conference on Advances in Semantic Processing (SEMAPRO 2009), October 11-16, 2009 - Sliema, Malta.
 - The 2nd International Workshop on Ontologies and Information Systems for the Semantic Web (ONISW 2008) in conjunction with ACM 17th Conference on Information and Knowledge Management (CIKM 2008). Napa Valley Marriott Hotel & Spa: Napa Valley, California, October 26-30, 2008.
 - ICDM 2007 Workshop on Knowledge Discovery and Data Mining from Multimedia Data and Multimedia Applications In conjunction with The 7th IEEE International Conference on Data Mining (ICDM 2007). October 28-31, 2007, Omaha, NE USA.
 - MDMM 2007: 1st International Workshop on Multimedia Data Mining and Management September 3 - 7 Regensburg, Germany in conjunction with 18th International Conference on DEXA 2007

- 20th IEEE International Symposium on COMPUTER-BASED MEDICAL SYSTEMS (CBMS 2007), June 20-22, 2007, Maribor, Slovenia.
- IADIS Virtual Multi Conference on Computer Science and Information Systems (MCCIS 2006) – “Health Informatics- HI 2006”. May 15-19, 2006.
- The 19th IEEE International Symposium on Computer-based Medical Systems (CBMS 2006). June 22-23, 2006. Salt Lake City, Utah, USA.
- The 2006 Information Resources Management Association (IRMA) International Conference (IRMA 2006). May 21-24, 2006. Washington, D.C.
- The IEEE International Symposium on Computer-based Medical Systems (IEEE CBMS 2005). June. 23-24, 2005. Trinity College Dublin.
- The IASTED International Conference on DATABASES and Applications (DBA 2005). Feb. 14-16, 2005. Innsbruck, Austria.
- The 2004 WSEAS International Conference on engineering Education Venice, Italy. Nov. 13-17, 2004.
- The 2004 International Conference on Imaging Science, Systems, and Technology (CISST'04: June 21-24, 2004, Las Vegas, Nevada, USA).
- The 2004 International Conference on Information and Knowledge Engineering (IKE'04: June 21-24, 2004, Las Vegas, Nevada, USA).
- 2003 International Workshop on Multimedia Technologies in E-Learning and Collaboration (WOMTEC). Oct.17, 2003. Nice, France.
- Session Chair
 - International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC), Vancouver, British Columbia, Canada, August, 2008
 - The 22nd Annual ACM Symposium on Applied Computing 2007, Multimedia and Visualization (MMV-2), March 11 - 15, 2007.
 - The IEEE International Symposium on Computer-based Medical Systems (IEEE CBMS 2005). June. 23-24, 2005. Trinity College Dublin.
 - Multimedia Data Mining at the 2004 International Conference on Information and Knowledge Engineering (IKE 04). Monte Carlo Resort, Las Vegas, Nevada, USA. June 21-24, 2004
- Reviewed Submissions for:
 - International Journal of Computing & Information Technology. Feb. 2009.
 - The 2nd International Workshop on Ontologies and Information Systems for the Semantic Web (ONISW 2008) in conjunction with ACM 17th Conference on Information and Knowledge Management (CIKM 2008). Napa Valley Marriott Hotel & Spa: Napa Valley, California, October 26-30, 2008.
 - IEEE Signal Processing Letters, Sep. 2008
 - IEEE Transaction Systems, Man, Cybernetics Part B, July 2008.
 - The International Journal on Very Large Databases, June 2008.
 - Image and Vision Computing Journal, Feb. 2008.
 - Journal of Anatomy, Dec. 2007.
 - The 23rd Annual ACM Symposium on Applied Computing 2008, March 16 - 20, 2008, Fortaleza, Brazil.
 - ICDM 2007 Workshop on Knowledge Discovery and Data Mining from Multimedia Data and Multimedia Applications In conjunction with The 7th IEEE International Conference on Data Mining (ICDM 2007). October 28-31, 2007, Omaha, NE USA.
 - ICDM 2007 Workshop on Knowledge Discovery and Data Mining from Multimedia Data and Multimedia Applications In conjunction with The 7th IEEE International Conference on Data Mining (ICDM 2007). October 28-31, 2007, Omaha, NE USA.

- MDMM 2007: 1st International Workshop on Multimedia Data Mining and Management September 3 - 7 Regensburg, Germany in conjunction with 18th International Conference on DEXA 2007.
- 20th IEEE International Symposium on COMPUTER-BASED MEDICAL SYSTEMS, June 20-22, 2007, Maribor, Slovenia.
- The 22nd Annual ACM Symposium on Applied Computing 2007, March 11 - 15, 2007.
- The 19th IEEE International Symposium on Computer-based Medical Systems (CBMS 2006), June 22-23, 2006.
- The 2006 Information Resources Management Association (IRMA) International Conference (IRMA 2006), May, 21-24, 2006.
- IASTED International Conference on Advances in Computer Science and Technology, January 23-25, 2006 in Puerto Vallarta, Mexico.
- Springer Book Proposal. Aug. 2005.
- IEEE Transactions on Knowledge and Data Engineering. July, 2005.
- IEEE Transactions on Mobile Computing. June, 2005.
- IEEE Transactions on Circuits and Systems for Video Technology. Mar. 2005.
- IEEE Transactions on Mobile Computing. Feb. 2005.
- The IEEE International Symposium on Computer-based Medical Systems (IEEE CBMS 2005). June. 23-24, 2005. Trinity College Dublin
- ACM Multimedia Systems Journal (Dec. 2004).
- The IASTED International Conference on DATABASES and Applications (DBA 2005). Feb. 14-16, 2005. Innsbruck, Austria.
- Encyclopedia of Data Warehousing and Mining (June 2004)
- IEEE Transactions on Circuits and Systems for Video Technology. June, 2004.
- IEEE Transactions on Knowledge and Data Engineering. May, 2004.
- IEEE Transactions on Broadcasting. Mar. 2004.
- IEEE Transactions on Mobile Computing. Jan. 2004.
- External reviewer for ITCC 04 conference Biomedical Computation / Bioinformatics track. Dec. 2003.
- IEEE Transactions on Circuits and Systems for Video Technology. Dec. 31, 2003.
- IEEE Transactions on Knowledge and Data Engineering. Dec 16, 2003.
- IEEE Transactions on Circuits and Systems for Video Technology.
- 2003 International Workshop on Multimedia Technologies in E-Learning and Collaboration (WOMTEC). Oct.17, 2003. Nice, France.
- ACM International Conference on Multimedia 2003. Nov. 2-8, 2003. Berkeley, CA.
- The international Conference on Image and Video Retrieval (CIVR2003). July 24-25, 2003. Urbana, IL, USA.
- The Eighteenth Annual ACM Symposium on Applied Computing (SAC2003) . Mar. 9-12, 2003. Melbourne, Florida, USA.
- ACM International Conference on Multimedia 2002. Juan Les Pins, France. Dec. 1-6, 2002.
- IEEE Transactions on Circuits and Systems for Video Technology.
- IEEE Trans. on Computers Special Issue on Wireless Internet 02
- WWW 2002, Dec. 2001
- Transactions on Knowledge and Data Engineering (Journal). September 2001.
- The 9th ACM International Multimedia Conference (ACM Multimedia '2001). Sep. 30-Oct. 5, 2001. Ottawa, Canada.
- International Parallel and Distributed Processing System Symposium (IPDPS 2001). San Francisco, CA. 23-17 April, 2001.

- International Conference on Information Society in the 21st Century: Emerging Technologies and New Challenges (IS2000). The University of Aizu, Aizu-Wakamatsu City, Fukushima, Japan. November 5-8, 2000
- The 8th ACM International Multimedia Conference (ACM Multimedia '2000). Oct. 30- Nov. 3, 2000. LA, CA.
- The 7th ACM International Multimedia Conference (ACM Multimedia '99). Oct. 30- Nov. 5, 1999. Orlando, Florida.
- The 8th IEEE International Conference on Computer Communications and Networks. October 11-13, 1998. Boston, Massachusetts.
- The 14th International Conference on Data Engineering. Feb. 23-27 1998. Orlando, Florida.
- Others:
 - Attending a Recruiting Fair for High School Students, Sep. 23, 2004. UTA Activities Building.
 - A Member of Faculty Distinguished Lecture Series (2004-2005), UTA/Forth Worth Academic Connection.
 - A member of International Association of Science and Technology for Development (IASTED) Technical Committee on "Database".
 - Volunteer for 19th IEEE International Performance, Computing and Communications Conference (IPCCC 2000), Feb. 20 - 22, 2000.
 - Volunteer for The 7th ACM International Multimedia Conference (ACM Multimedia '99), Oct. 30 - Nov. 5, 1999.
 - Volunteer for 14th IEEE International Conference on Data Engineering, Feb. 23 - 27, 1998.

Student Supervision

- Ph. D. Student (Current):
 - Ruwan Dharshana Nawarathna
 - Jayantha Kumara
- Ph. D. Student (Graduated):
 - Sae Hwang (a faculty member of University of Illinois at Springfield, IL),
 - JeongKyu Lee (a faculty member of University of Bridgeport, CT).
- M.S. thesis students:
 - UNT (2) : Avnish Malik, and Venkata Praveen karri.
 - UTA (8) : Arash Mirzaei, Jay Cox, Mahmudul Hassan Khan, Yong Hwan An, Babitha Bandi, Nandakumar Baskaran, Maruthi Thenneru, and Eswar Vemuri.

Honors and Awards

- Minnesota Governor's Award at American College of Gastroenterology. President's Plenary Session, October 2006.
- Member of Upsilon Pi Epsilon.
- The Student Travel Award from 19th IEEE International Performance, Computing and Communication Conference (IPCCC 2000), 2000.
- Graduate Merit Fellowship Award from University of Central Florida, 1999.
- First Place Award in SAMSUNG Group Quality Control Presentation Contest, 1990.
- President Scholarship Awards from Seoul National University, Seoul Korea, 1982 – 1985.

Collaborators

- Prof. Bill Buckles, and Prof. Xiaohui Yuan, University of North Texas.
- Prof. Wallapak Tavanapong, Iowa State University, Ames, Iowa.

- Prof. Johnny Wong, Iowa State University, Ames, Iowa.
- Prof. Piet C. de Groen, Mayo Clinic, Rochester, Minnesota.