

Biographical Sketch

JungHwan Oh

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

Research Interests

- Medical Image and Video Analysis, Multimedia data mining.
- I have 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, wireless capsule endoscopy, etc.) analyses and multimedia data mining such as video segmentation, blurry frame detection, reflection detection, operational tool detection, abnormal disease detection, and multimedia database building.

Pending Supports

1. (PI) Automated scoring of mucosal disease activity and extent in ulcerative colitis. National Institute of Health (NIDDK), \$499,602, 04/2012 – 03/2017.
2. (PI) Improving Colonoscopy Quality through Automated Monitoring. National Institute of Health (NIDDK), \$499,996, 06/2012 – 05/2017.

Current Supports

1. (PI) Real-time Analysis and Feedback during Colonoscopy to improve Quality. NSF STTR Phase II (University partner), \$152,776, 01/2011 – 12/2012.
2. (PI) Improving Colonoscopy Quality through Automated Monitoring, National Institute of Health, \$184,058, 09/2009 - 05/2012.

Completed Supports

After joining UNT (from Fall 2006)

- **External Fundings**

1. (CoPI) Computer-aided Diagnosis for gastrointestinal Bleeding using Wireless Capsule Endoscopy, THECB-Advanced Research Program, \$112,944, 2008 - 2010.
2. (PI) NSF STTR Phase I and IB: Techniques for Computer-Aided Quality Control for Colonoscopy, and Toward Real-Time Computer-Aided Quality Monitoring of Colonoscopy (University partner), National Science Foundation, \$70,767, 05/2008 – 12/2009.
3. (Consultant) Developing Smart View Module in Wireless Capsule Endoscopy Videos, University of Bridgeport, \$10,000, 2008.
4. (PI) SEI: Endoscopic Multimedia Information System (EMIS) including REU Supplement, National Science Foundation, \$164,002, 2006 - 2008.

- **Internal (UNT) Fundings**

5. (PI) Color-based Object Detection in Endoscopy Videos Junior Faculty Summer Research Fellowship for Summer 2010, University of North Texas, \$5,000.
6. (PI) Optimization of Medical Image Analysis using Graphics Processing Units. Junior Faculty Summer Research Fellowship for Summer 2008, University of North Texas, \$5,000.
7. (PI) Optimization of Medical Image Analysis using Graphics Processing Units, Faculty Research Grant (Research Opportunities Program (ROP)), \$5,000, University of North Texas, 2008-2009.
8. (PI) Objective Quality Control System for Colonoscopy. Junior Faculty Summer Research Fellowship for Summer 2007, University of North Texas, \$5,000.

Before joining UNT

9. (PI) SEI: Endoscopic Multimedia Information System (EMIS), National Science Foundation, \$54,598, 2005 - 2006.
10. (CoPI) Acquisition of High-Performance Distributed Computing and Storage Infrastructure at UTA, National Science Foundation, \$950,000, 2002 - 2005.
11. (PI) REP: Medical Multimedia Database Management System for Colonoscopy. University of Texas at Arlington, \$10,000, 2003 - 2004.

Patents

- United States Letters Patent No. 7,894,648, "COLONOSCOPY VIDEO PROCESSING FOR QUALITY METRICS DETERMINATION" with Mayo Clinic and Iowa State University.

Journals and Book Chapters

After joining UNT (from Fall 2006)

1. Sean Stanek, Wallapak Tavanapong, Johnny Wong, JungHwan Oh, and Piet C. de Groen. "Automatic Real-Time Detection of Endoscopy Procedures Using Temporal Features". *Computer Methods and Programs in Biomedicine*, In Press, Corrected Proof, Available

online 31 May 2011, ISSN 0169-2607, DOI: 10.1016/j.cmpb.2011.04.003. (<http://www.sciencedirect.com/science/article/pii/S0169260711000952>).

2. Y. Wang, W. Tavanapong, J. Wong, J. Oh. "Detection of Quality Visualization of Appendiceal Orifices using Local Edge Cross-Section Profile Features and Near Pause Detection", *IEEE Transactions on Biomedical Engineering, IEEE*. Vol. 57, No.3, pp.685-695, 2010.
3. 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*. Volume 56, Issue 9, Part 1, Sept. 2009, Page(s):2190 - 2196.
4. 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.
5. 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.
6. 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.
7. JungHwan Oh, Sae Hwang, JeongKyu Lee, W. Tavanapong, Piet C. de Groen, and Johnny Wong. "Informative Frame Classification for Endoscopy Video". *Medical Image Analysis*. Apr;11(2):110-127. Epub 2007 Feb 27.

Before joining UNT

8. 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.
9. JungHwan Oh, Quan Wen, JeongKyu lee and Sae Hwang. "Video Abstraction". *Video Data Management and Information Retrieval*. (A book edited by Sagarmay Deb). Idea Group Inc. and IRM Press. pp. 321-346. 2004.
10. 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.
11. 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.
12. 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.
13. 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

After joining UNT (from Fall 2006)

1. J. Muthukudage, J. Oh, W. Tavanapong, J. Wong, and P. C. de Groen. "Color Based Stool Region Detection in Colonoscopy Video for Quality Measurements". Proc. of *the 5th Pacific-*

- Rim Symposium on Image and Video Technology (PSIVT2011)*. 20-23 November 2011, Gwangju, South Korea.
2. Y. Wang, W. Tavanapong, J. Wong, J. Oh, and P. C. de Groen. "Computer-Aided Detection of Retroflexion in Colonoscopy". Proc. of *the 24th IEEE International Symposium on Computer-Based Medical Systems (CBMS 2011)*, pp. 1 – 6, Bristol, UK, June 2011.
 3. S. R. Stanek, W. Tavanapong, J. Wong, J. Oh, R. Nawarathna, J. Muthukudage, and P. C. de Groen. "SAPPHIRE Middleware and Software Development Kit for Medical Video Analysis". Proc. of *the 24th IEEE International Symposium on Computer-Based Medical Systems (CBMS 2011)*, pp 1 – 6, Bristol, UK, June 2011.
 4. DongHo Hong, Wallapak Tavanapong, Johnny Wong, JungHwan Oh, and Piet de Groen. "COLON FOLD CONTOUR ESTIMATION FOR 3D VISUALIZATION OF COLON STRUCTURE FROM 2D COLONOSCOPY IMAGES". Proc. of *The eighth IEEE International Symposium on Biomedical Imaging: From Nano to Macro (ISBI 2011)*, pp. 121 – 124, March 30 – April 02, 2011, Chicago, Illinois.
 5. Venkata Praveen Karri, JungHwan Oh, Wallapak Tavanapong, Johnny Wong, and Piet C. de Groen. "EFFECTIVE AND ACCELERATED INFORMATIVE FRAME FILTERING IN COLONOSCOPY VIDEOS USING GRAPHICS PROCESSING UNIT". Proc of *International Conference on Bio-inspired Systems and Signal Processing (BIOSIGNALS 2011)*, pp.119-124, Jan. 26-29, 2011, Rome, Italy.
 6. Ruwan Dharshana Nawarathna, JungHwan Oh, Xiaohui Yuan, Jeongkyu Lee and Shou Jiang Tang. "Abnormal Image Detection Using Texton Method in Wireless Capsule Endoscopy Videos". Proc. of *the 2010 International Conference on Medical Biometrics (ICMB2010)*. June 28-30, 2010, Hong Kong. (Acceptance rate for regular papers: 36% (58/160)). pages 153-162.
 7. X. Liu, W. Tavanapong, J. Wong, J. Oh, and P. C. de Groen. "Automated Measurement of Quality of Mucosa Inspection for Colonoscopy". Proc. of *International Conference on Computational Science*. Amsterdam, Netherlands, June 2010. Volume 1, Issue 1, pages 945-954.
 8. JungHwan Oh, Malik Avnish Rajbal, Jayantha Kumara Muthukudage, Wallapak Tavanapong, Johnny Wong, and Piet C. de Groen. "Real-Time Phase Boundary Detection in Colonoscopy Videos". Proc. of *6th International Symposium on Image and Signal Processing and Analysis (ISPA 2009)*, p. 724-729, Sep. 16-18, 2009, Salzburg, Austria.
 9. D. Hong, W. Tavanapong, J. Wong, J. Oh, and P. C. de Groen. "3D Reconstruction of Colon Segments from Colonoscopy Images". Proc. of *IEEE Int'l Conf. on Bioinformatics and Bioengineering*. Pages 53-60, Taiwan, June 2009. (Acceptance rate for regular papers: 34/105)
 10. 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.
 11. 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.
 12. 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, pp. 4780 – 4783, August, 2008.

13. 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". Proc. of *SPIE Medical Imaging*. Volume 6919, pp. 69190X-69190X-10. February, 2008.
14. S. Hwang, J. Oh, W. Tavanapong, J. Wong, and P. C. de Groen. "Polyp Detection in Colonoscopy Video Using Elliptical Shape Feature". Proc. of *IEEE Int'l Conf. on Image Processing*. pp. 465-468. San Antonio, Texas, September 2007.
15. 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.
16. 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.
17. 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.
18. 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.
19. 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.
20. 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.

Before joining UNT

21. 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.
22. 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.
23. 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.
24. 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.
25. 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.
26. 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.

27. 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.
28. 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.
29. 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.
30. 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
31. 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.
32. 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.
33. 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.
34. 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.
35. 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.
36. 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.
37. 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.
38. 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.
39. 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.

40. 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. Orlando, Florida.
41. 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.
42. 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.
43. 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.
44. 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.
45. 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.
46. 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.
47. 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.
48. 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.
49. 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.
50. 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.
51. 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.
52. 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.
53. 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.
54. 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.
55. 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.

56. 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.
57. 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.
58. 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.
59. 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.

Refereed Medical Conference Abstracts

After joining UNT (from Fall 2006)

60. Jithinraj Edakkanambeth Varayil, Felicity Enders, Wallapak Tavanapong, JungHwan Oh, Johnny Wong, and Petrus C. de Groen. "Colonoscopy: What endoscopists inspect under optimal conditions". *Digestive Disease Week 2011*. Poster Session, May 2011, McCormic Place, Chicago, USA.
61. Petrus C. de Groen, Michael J. Szewczynski, Felicity Enders, JungHwan Oh, Wallapak Tavanapong, and Johnny Wong. "Do endoscopists who participate in deidentified monitoring provide higher quality than those who do not?". *Digestive Disease Week 2011*. Poster Session, May 2011, McCormic Place, Chicago, USA.
62. Petrus C. de Groen, Michael J. Szewczynski, Felicity Enders, Wallapak Tavanapong, JungHwan Oh, and Johnny Wong. "Incomplete and Low Quality Inspection of the Stomach during Upper Endoscopy". *American College of Gastroenterology*. Poster Session, October 2010, San Antonio, Texas, USA.
63. Piet C. de Groen, Johan Bakken, Monique van Leerdam, Larry Szarka, Felicity Enders, Wallapak Tavanapong, JungHwan Oh, and Johnny Wong. "Blinded Peer Review to Measure Colonoscopy Performance of an Individual Endoscopist". *Digestive Disease Week 2010*. Poster Session, May 2010, New Orleans, Louisiana, USA.
64. Johan Bakken, Monique van Leerdam, Larry Szarka, Felicity Enders, Wallapak Tavanapong, JungHwan Oh, Johnny Wong, and Piet C. de Groen. "Colonoscopy Peer Review Using Automated Video Capture Allows Assessment of Endoscopist Performance". *Digestive Disease Week 2010*. Poster Session, May 2010, New Orleans, Louisiana, USA.
65. Johan Bakken, Monique van Leerdam, Larry Szarka, Felicity Enders, Wallapak Tavanapong, JungHwan Oh, Johnny Wong, and Piet C. de Groen. "Colonoscopy Peer Review Utilizing Automated Video Capture". *American College of Gastroenterology*. Poster Session, October 2009, San Diego, CA, USA.
66. D. Hong, W. Tavanapong, J. Oh, J. Wong, and P. C. de Groen. "A New Technology to Visualize What the Endoscopist does not See during Colonoscopy". *Digestive Disease Week 2009*. Poster Session, June 2009, McCormic Place, Chicago, USA.
67. 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.

68. 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.

Before joining UNT

69. 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.
70. 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.

Talks

1. JungHwan Oh, "Computer Guided Quality Control System for Colonoscopy". WBT(World's Best Technologies) Showcase 2009. March 24-25 2009, Arlington, TX.
2. JungHwan Oh, "Quality Control for Colonoscopy", The eighth annual Iowa Venture Capital & Entrepreneur Conference, Oct. 11 2007, Des Moines, Iowa.

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, Fall 2011 in UNT
- Database System II (graduate level): Spring 2009, Spring 2010 in UNT
- Multimedia Database Systems (graduate level): Spring 2007, Spring 2008, Spring 2009, Spring 2010, Spring 2011 in UNT
- Distributed and Parallel Database Systems (graduate level): Fall 2007, Spring 2009 in UNT
- Multimedia Computing (undergraduate and graduate levels): Spring 2008, Fall 2008, Fall 2009, Fall 2011 in UNT
- Introduction to Database Systems Design (undergraduate level): Fall 2010
- Computer Science III (C++: How to Program, undergraduate level): Spring 2011

Synergistic Activities

- Editorial Board
 - *Recent Patents on Biomedical Engineering* (<http://www.bentham.org/biomeng/EBM.htm>).

- 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 proceeding of the 2004 International Conference on Information and Knowledge Engineering (IKE 04). Monte Carlo Resort, Las Vegas, Nevada, USA. June 21-24, 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:
 1. *Computer Methods and Programs in Biomedicine*, Oct. 2011.
 2. *Journal of Medical Image Analysis*, Feb. 2011.
 3. 33rd Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC '11), Aug. 30 – Sep. 3, 2011, Boston, MA USA.
 4. 32nd Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC'10) "Merging Medical Humanism and Technology" August 31 - September 4, 2010. Buenos Aires Sheraton Hotel, Buenos Aires, Argentina.
 5. *Journal of Medical Image Analysis*, Sep. 2009.
 6. *6th International Symposium on Image and Signal Processing and Analysis (ISPA 2009)*, September 16-18, 2009, Salzburg, Austria.
 7. 31st Annual International Conference of the *IEEE Engineering in Medicine and Biology Society* (EMBC'09). September, 2-6, 2009, Minneapolis, Minnesota, USA.
 8. *International Journal of Computing & Information Technology*. Feb. 2009.
 9. 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.
 10. *IEEE Signal Processing Letters*, Sep. 2008
 11. *IEEE Transaction Systems, Man, Cybernetics Part B*, July 2008.
 12. *The International Journal on Very Large Databases*, June 2008.
 13. *Image and Vision Computing Journal*, Feb. 2008.
 14. *Journal of Anatomy*, Dec. 2007.
 15. The 23rd Annual ACM Symposium on Applied Computing 2008, March 16 - 20, 2008, Fortaleza, Brazil.
 16. 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.
 17. 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.
 18. 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.
 19. 20th IEEE International Symposium on COMPUTER-BASED MEDICAL SYSTEMS, June 20-22, 2007, Maribor, Slovenia.
 20. The 22nd Annual ACM Symposium on Applied Computing 2007, March 11 - 15, 2007.
 21. The 19th IEEE International Symposium on Computer-based Medical Systems (CBMS 2006), June 22-23, 2006.
 22. The 2006 Information Resources Management Association (IRMA) International Conference (IRMA 2006), May, 21-24, 2006.
 23. IASTED International Conference on Advances in Computer Science and Technology, January 23-25, 2006 in Puerto Vallarta, Mexico.
 24. Springer Book Proposal. Aug. 2005.
 25. *IEEE Transactions on Knowledge and Data Engineering*. July, 2005.
 26. *IEEE Transactions on Mobile Computing*. June, 2005.
 27. *IEEE Transactions on Circuits and Systems for Video Technology*. Mar. 2005.
 28. *IEEE Transactions on Mobile Computing*. Feb. 2005.

29. The IEEE International Symposium on Computer-based Medical Systems (IEEE CBMS 2005). June. 23-24, 2005. Trinity College Dublin
 30. ACM Multimedia Systems Journal (Dec. 2004).
 31. The IASTED International Conference on DATABASES and Applications (DBA 2005). Feb. 14-16, 2005. Innsbruck, Austria.
 32. Encyclopedia of Data Warehousing and Mining (June 2004)
 33. IEEE Transactions on Circuits and Systems for Video Technology. June, 2004.
 34. IEEE Transactions on Knowledge and Data Engineering. May, 2004.
 35. IEEE Transactions on Broadcasting. Mar. 2004.
 36. IEEE Transactions on Mobile Computing. Jan. 2004.
 37. External reviewer for ITCC 04 conference Biomedical Computation / Bioinformatics track. Dec. 2003.
 38. IEEE Transactions on Circuits and Systems for Video Technology. Dec. 31, 2003.
 39. IEEE Transactions on Knowledge and Data Engineering. Dec 16, 2003.
 40. IEEE Transactions on Circuits and Systems for Video Technology.
 - a. 2003 International Workshop on Multimedia Technologies in E-Learning and Collaboration (WOMTEC). Oct.17, 2003. Nice, France.
 41. ACM International Conference on Multimedia 2003. Nov. 2-8, 2003. Berkeley, CA.
 42. The international Conference on Image and Video Retrieval (CIVR2003). July 24-25, 2003. Urbana, IL, USA.
 43. The Eighteenth Annual ACM Symposium on Applied Computing (SAC2003) . Mar. 9-12, 2003. Melbourne, Florida, USA.
 44. ACM International Conference on Multimedia 2002. Juan Les Pins, France. Dec. 1-6, 2002.
 45. IEEE Transactions on Circuits and Systems for Video Technology.
 46. IEEE Trans. on Computers Special Issue on Wireless Internet 02
 47. WWW 2002, Dec. 2001
 48. Transactions on Knowledge and Data Engineering (Journal). September 2001.
 49. The 9th ACM International Multimedia Conference (ACM Multimedia '2001). Sep. 30-Oct. 5, 2001. Ottawa, Canada.
 50. International Parallel and Distributed Processing System Symposium (IPDPS 2001). San Francisco, CA. 23-17 April, 2001.
 51. 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
 52. The 8th ACM International Multimedia Conference (ACM Multimedia '2000). Oct. 30-Nov. 3, 2000. LA, CA.
 53. The 7th ACM International Multimedia Conference (ACM Multimedia '99). Oct. 30- Nov. 5, 1999. Orlando, Florida.
 54. The 8th IEEE International Conference on Computer Communications and Networks. October 11-13, 1998. Boston, Massachusetts.
 55. 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
 - Ashok Dahal
- Ph. D. Student (Graduated in UTA):
 - 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 (Graduated):
 - 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.