

Biographical Sketch

JungHwan Oh

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Professional Preparation

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

Appointments

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| • Associate Professor | Computer Science & Engineering
University of North Texas | 2012 –Present |
| • Assistant Professor | Computer Science & Engineering
University of North Texas | 2006 – 2012 |
| • Assistant Professor | Computer Science & Engineering
University of Texas at Arlington | 2001 – 2006 |
| • Visiting Professor | Computer Science
University of Central Florida | 2000 – 2001 |

Research Interests

- Medical Image and Video Analysis, Multimedia data mining. Multimedia Big Data.
- My main research topic includes medical image and video analysis for Colonoscopy videos. I have established this research with the collaboration of Iowa State University, and Mayo Clinic, Rochester, MN in 2003. This research focuses on video segmentation, blurry, water bubble frame detection, reflection detection, abnormal disease detection, bite-block detection, measuring objective quality of colonoscopy, polyp detection and stool detection.

Supports

After joining UNT (from Fall 2006)

- External Fundings

1. REAL-TIME FEEDBACK TO IMPROVE COLONOSCOPY, National Institute of Health (National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK)- (NIH 7R01DK106130-02)), \$434,096.85 (this amount is UNT portion only-GF50003), 06/15/2017-05/31/2022. (This is a collaborative research with IOWA state university, University of Minnesota, University of Washington, Johns Hopkins University and Mayo Clinic, Rochester, MN. The lead Institution is University of Minnesota). (all faculty involved in UNT: JungHwan Oh) (subcontract)
2. Running SAPPHIRE on Invendoscope™ SC20, Endometric, Co. Ltd. (www.endometric.com), \$35,000 (I/UCRC), Nov. 2013 – Nov. 2015. (all faculty involved in UNT: JungHwan Oh) (subcontract)
3. Student Travel Grants for 2014 ACM Multimedia Conference (The 22nd ACM International Conference on Multimedia Nov., 2014, Orlando, FL), National Science

Foundation (Div. of Information & Intelligent Systems), \$10,000 (GF1685), June 2014 – May 2015. (all faculty involved in UNT: JungHwan Oh)

4. Real-time Analysis and Feedback during Colonoscopy to improve Quality. NSF STTR Phase II, \$152,776 (this amount is UNT portion only), 01/2011 – 08/2012. (University partner, Endometric, Co. Ltd. (www.endometric.com)) (all faculty involved in UNT: JungHwan Oh) (subcontract)
5. Improving Colonoscopy Quality through Automated Monitoring, National Institute of Health (National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK)-Mayo Clinic, Rochester, MN), \$165,981 (this amount is UNT portion only), 09/2009 - 05/2012. (This is a collaborative research with IOWA state university and Mayo Clinic, Rochester, MN. The lead Institution is Mayo Clinic, Rochester, MN). (all faculty involved in UNT: JungHwan Oh) (subcontract)
6. Computer-aided Diagnosis for gastrointestinal Bleeding using Wireless Capsule Endoscopy, THECB-Advanced Research Program, \$112,944, 2008 - 2010. (PI: Xiaohui Yuan, CoPIs: JungHwan Oh, and Bill Buckles)
7. Techniques for Computer-Aided Quality Control for Colonoscopy, and Toward Real-Time Computer-Aided Quality Monitoring of Colonoscopy. NSF STTR Phase I and IB, \$70,767 (this amount is UNT portion only), 05/2008 – 12/2009. (University partner, Endometric, Co. Ltd. (www.endometric.com)), (all faculty involved in UNT: JungHwan Oh) (subcontract)
8. Developing Smart View Module in Wireless Capsule Endoscopy Videos, University of Bridgeport, \$10,000, 2008. (Consultant)
9. SEI: Endoscopic Multimedia Information System (EMIS) including REU Supplement, National Science Foundation, \$164,002 (this amount is UNT portion only), 2006 - 2008. (This is a collaborative research with IOWA state university and Mayo Clinic, Rochester, MN. The lead Institution is UNT). (all faculty involved in UNT: JungHwan Oh)

- Internal (UNT) Fundings

1. Color-based Object Detection in Endoscopy Videos Junior Faculty Summer Research Fellowship for Summer 2010, University of North Texas, \$5,000. (all faculty involved in UNT: JungHwan Oh) (all faculty involved in UNT: JungHwan Oh)
2. Optimization of Medical Image Analysis using Graphics Processing Units. Junior Faculty Summer Research Fellowship for Summer 2008, University of North Texas, \$5,000. (all faculty involved in UNT: JungHwan Oh)
3. Optimization of Medical Image Analysis using Graphics Processing Units, Faculty Research Grant (Research Opportunities Program (ROP)), \$5,000, University of North Texas, 2008-2009. (all faculty involved in UNT: JungHwan Oh)
4. Objective Quality Control System for Colonoscopy. Junior Faculty Summer Research Fellowship for Summer 2007, University of North Texas, \$5,000. (all faculty involved in UNT: JungHwan Oh)

Before joining UNT

1. SEI: Endoscopic Multimedia Information System (EMIS), National Science Foundation, \$54,598, 2006 - 2008. (This is a collaborative research with IOWA state university and Mayo Clinic, Rochester, MN. The lead Institution is UTA). (all faculty involved in UTA: JungHwan Oh)
2. Acquisition of High-Performance Distributed Computing and Storage Infrastructure at UTA, National Science Foundation, \$950,000, 2002 - 2005. (CoPI)

3. REP: Medical Multimedia Database Management System for Colonoscopy. University of Texas at Arlington, \$10,000, 2003 - 2004. (all faculty involved in UTA: JungHwan Oh)

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. Wallapak Tavanapong, JungHwan Oh, Jacob Pratt, Mohammed Khaleel, Johnny Wong, and Piet C. de Groen. Development and Deployment of Computer-aided Real-Time Feedback for Improving Quality of Colonoscopy in a Multi-Center Clinical Trial. *Biomedical Signal Processing and Control*. Accepted at Jan. 2023.
2. Tavanapong W, Oh J, Riegler MA, Khaleel M, Mittal B, de Groen PC. Artificial Intelligence for Colonoscopy: Past, Present, and Future. *IEEE J Biomed Health Inform*. 2022 Aug;26(8):3950-3965. doi: 10.1109/JBHI.2022.3160098. Epub 2022 Aug 11. PMID: 35316197.
3. Wallapak Tavanapong, DongHo Hong, Johnny Wong, Piet de Groen and JungHwan Oh. "Reconstruction of a 3D Virtual Colon Structure and Camera Motion for Screening Colonoscopy". *Medical Research Archives*, Vol. 5, Issue 6, Pages 195-217, June 2017. <http://dx.doi.org/10.18103/mra.v5i6.1351>
4. Y. Wang, W. Tavanapong, J. Wong, J. Oh, and P. C. de Groen. "Polyp-Alert: Near Real-time Feedback during Colonoscopy". *Computer Methods and Programs in Biomedicine*. 120(3):164-179, 2015.
5. Ruwan Nawarathna*, JungHwan Oh, Jayantha Muthukudage*, Wallapak Tavanapong, Johnny Wong, Piet C. de Groen, and Shou Jiang Tang. "Abnormal image detection in endoscopy videos using a filter bank and local binary patterns", *Neurocomputing*, Vol. 144, pp. 70-91, Nov. 2014, <http://dx.doi.org/10.1016/j.neucom.2014.02.064>.
6. Y. Wang, W. Tavanapong, J. Wong, J. Oh, and P. C. de Groen, "Part-based Multi-derivative Edge Cross-Section Profiles for Polyp Detection in Colonoscopy". *IEEE Journal of Biomedical and Health Informatics*, Vol.18, Issue 4, pp. 1379-1389, July 2014.
7. DongHo Hong, Wallapak Tavanapong, Johnny Wong, JungHwan Oh, and Piet de Groen. "3D Reconstruction of Virtual Colon Structures from Colonoscopy Images". *ELSEVIER Journal of Computerized Medical Imaging and Graphics*. Vol. 38, Issue 1, Pages 22-33, Jan. 2014.
8. Jayantha Muthukudage*, JungHwan Oh, Ruwan Nawarathna*, Wallapak Tavanapong, Johnny Wong, Piet C. de Groen. "Fast Object Detection using Color Features for Colonoscopy Quality Measurements". *Abdomen and Thoracic Imaging - An Engineering & Clinical Perspective* (Book by Springer), Chapter 14. pp 365-388, 2014.
9. S. Stanek, W. Tavanapong, J. Wong, J. Oh, R. D. Ruwan*, J. Muthukudage*, and Piet C. de Groen, "SAPPHIRE: A Toolkit for Building Stream Programs for Medical Video Analysis", *Computer Methods and Programs in Biomedicine*, Dec. 2013, vol. 112, No. 3, pp.407-421.
10. Y. Wang, W. Tavanapong, J. Wong, J. Oh, and P. C. de Groen. "Near Real-time Retroflexion Detection in Colonoscopy". *IEEE Journal of Biomedical and Health Informatics*, 17(1):143-152, January 2013.
11. S. Stanek, W. Tavanapong, J. Wong, J. Oh, and P. C. de Groen. "Automatic Real-Time Detection of Endoscopic Procedures Using Temporal Features". *Computer Methods and Programs in Biomedicine*. Vol. 108. No. 2. pp. 524-535, 2012.
12. 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.

13. 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.
14. 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.
15. D. Liu, Y. Cao, K. Kim, S. Stanek, B. Doungratanaex-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.
16. 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.
17. 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

18. 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.
19. 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.
20. 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.
21. 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.
22. 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. Md Marufi Rahman, JungHwan Oh, Wallapak Tavanapong, and Piet C. de Groen. "Content based Image Retrieval using Depth Maps for Colonoscopy Images". In Proceedings of the 16th International Joint Conference on Biomedical Engineering Systems and Technologies (BIOSTEC 2023) - 16th International Conference on Bio-Inspired Systems and Signal Processing (BIOSIGNALS 2023). Lisbon, Portugal. Feb. 16-18, 2023.
2. Md Farhad Mokter, Azeez Idris, JungHwan Oh, Wallapak Tavanapong, and Piet C. de Groen. "Severity Classification of Ulcerative Colitis in Colonoscopy Videos by Learning from Confusion". 17th International Symposium on Visual Computing (ISVC 2022). San Diego, CA. October 3-5, 2022.
3. Azeez Idris, Mohammed Khaleel, Wallapak Tavanapong, JungHwan Oh, Piet de Groen. "TRAINING STRATEGY FOR LIMITED LABELED DATA BY LEARNING FROM

- CONFUSION". The 29th IEEE International Conference on Image Processing (IEEE ICIP). 16-19 October 2022 Bordeaux, France.
4. Bhuvan Mittal, JungHwan Oh. "Enhancement of COVID-19 Segmentation using Machine Learning Analyses of Lung Imaging". 2021 6th International Conference on Biomedical Imaging, Signal Processing (ICBSP 2021). Xiamen, China, October 29-31, 2021. pp 24–30. <https://dl.acm.org/doi/proceedings/10.1145/3502803>
 5. Md Marufi Rahman, JungHwan Oh, Wallapak Tavanapong, Johnny Wong, and Piet C. de Groen. "Automated Bite-block Detection to distinguish Colonoscopy from Upper endoscopy using Deep Learning". 16th International Symposium on Visual Computing. Virtual. October 4-6, 2021. In: Bebis G. et al. (eds) Advances in Visual Computing. ISVC 2021. Lecture Notes in Computer Science, vol 13018. Springer, Cham. https://doi.org/10.1007/978-3-030-90436-4_17. pp 216-228.
 6. Bhuvan Mittal, JungHwan Oh. "CoviSegNet - Covid-19 Disease Area Segmentation using Machine Learning Analyses for Lung Imaging," 12th International Symposium on Image and Signal Processing and Analysis (ISPA), 2021, pp. 54-60, 13-15 September 2021, Zagreb, Croatia. doi: 10.1109/ISPA52656.2021.9552078.
 7. Bhuvan Mittal, JungHwan Oh. "Enhancement of COVID-19 Diagnosis using Machine Learning and Texture Analyses of Lung Imaging". The 2021 International Symposium on Artificial Intelligence for Medical Applications. 19 Aug - 23 Aug 2021, Newcastle upon Tyne, UK.
 8. Bhuvan Mittal, JungHwan Oh. "CoviNet: Covid-19 Diagnosis using Machine Learning Analyses for Computerized Tomography Images". Proc. SPIE 11878, 13th International Conference on Digital Image Processing (ICDIP 2021), Singapore, May 20-23, 2021. 1187816 (30 June 2021); <https://doi.org/10.1117/12.2601065>
 9. Mohammed Khaleel, Wallapak Tavanapong, JungHwan Oh, Johnny Wong, Piet C. de Groen. "Hierarchical Visual Concept Interpretation for Medical Image Detection". 34th IEEE CBMS International Symposium on Computer-Based Medical Systems, pp. 25-30. June 7-9, 2021. Online Event.
 10. Md Farhad Mokter, JungHwan Oh, Wallapak Tavanapong, Johnny Wong, and Piet C. de Groen. "Classification of Ulcerative Colitis Severity in Colonoscopy Videos Using Vascular Pattern Detection". 11th MICCAI Workshop on Machine Learning in Medical Imaging (MLMI 2020) conjunction with 23rd International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI 2020), pp. 552-562. October 4-8, 2020, Lima, Peru (virtual).
 11. Wallapak Tavanapong, JungHwan Oh, Gavin Kijkul, Jacob Pratt, Johnny Wong, and Piet C. de Groen. "Real-time Feedback for Colonoscopy in a Multi-center Clinical Trial". IEEE 33rd International Symposium on Computer Based Medical Systems (CBMS), Mayo Clinic, Rochester, MN, July 28 - 30, 2020. pp.13-18.
 12. Sure Venkata Leela Lakshmi Tejaswini, Bhuvan Mittal, JungHwan Oh, Wallapa Tavanapong, Johnny Wong, and Piet C. de Groen. "Enhanced Approach for Classification of Ulcerative Colitis Severity in Colonoscopy Videos using CNN". 14th International Symposium on Visual Computing (ISVC 2019), October 7-9, 2019, Lake Tahoe, Nevada, USA. LNCS 11845, pp. 25–37, 2019. https://doi.org/10.1007/978-3-030-33723-0_3
 13. Chuanhai Zhang, Wallapak Tavanapong, Gavin Kijkul, Johnny Wong, Piet C. de Groen, and JungHwan Oh. "Similarity-based Active Learning for Image Classification under Class Imbalance". 2018 IEEE International Conference on Data Mining (ICDM'18). pp. 1422-1427, Nov. 17-20, 2018, Singapore.
 14. Ali Alammari*, A B M Rezbaul Islam*, JungHwan Oh, Wallapak Tavanapong, Johnny Wong and Piet C. de Groen. "Non-Informative Frame Classification in Colonoscopy Videos using CNNs". 3rd International Conference on Biomedical Imaging, Signal Processing (ICBSP 2018). pp. 35-42, Oct. 11-13, 2018, Bari, Italy.

15. Ali Alammari*, A B M Rezbaul Islam*, Junghwan Oh, Wallapak Tavanapong, Johnny Wong and Piet C. de Groen. "Classification of Ulcerative Colitis Severity in Colonoscopy Videos using CNN". 9th International Conference on Information Management and Engineering (ICIME 2017). pp. 232-237, Oct. 9-11, 2017, Barcelona, Spain.
16. Chuanhai Zhang, Wallapak Tavanapong, Johnny Wong, Piet C. de Groen and Junghwan Oh. "Real Data Augmentation for Medical Image Classification". The 2nd Workshop on Large-scale Annotation of Biomedical data and Expert Label Synthesis (MICCAI LABELS 2017), pp.67-76, Sep. 10-14, 2017, Quebec, Canada.
17. Chuanhai Zhang, Wallapak Tavanapong, Johnny Wong, Piet C. de Groen and Junghwan Oh. "Real-Time Instrument Scene Detection in Screening GI Endoscopic Procedures". The 30th IEEE International Symposium on Computer-Based Medical Systems - IEEE CBMS 2017, pp. 720-725, June, 2017, Thessaloniki, Greece.
18. Ashok Dahal*, Junghwan Oh, Wallapak Tavanapong, Johnny Wong, Piet C. De Groen. "Enhancing Informative Frame Filtering by Water and Bubble Detection in Colonoscopy Videos". *The 2015 International Conference on Health Informatics and Medical Systems (HIMS'15)*, pp. 24-30, July 27-30, 2015, Las Vegas, USA.
19. Chuanhai Zhang, Wallapak Tavanapong, Johnny Wong, Junghwan Oh, Piet C. De Groen. "Cable Footprint History: Spatio-Temporal Technique for Instrument Detection in Gastrointestinal Endoscopic Procedures". *The 2015 International Conference on Image Processing, Computer Vision & Pattern Recognition (IPCV'15)*, pp. 308-314, July 27-30, 2015, Las Vegas, USA.
20. Ashok Dahal*, Junghwan Oh, Wallapak Tavanapong, Johnny Wong, Piet C. De Groen. "Detection of Ulcerative Colitis Severity in Colonoscopy Video Frames". *IEEE/ACM International Workshop on Content-Based Multimedia Indexing - CBMI 2015*. pp.1-6, June 10-12, 2015, Prague, Czech Republic. doi: 10.1109/CBMI.2015.7153617
21. De Groen P.C., Szewczynski M., Enders F., Tavanapong W., Oh J., Wong J. (2015) Real-Time Feedback During Colonoscopy to Improve Quality: How Often to Improve Inspection?. In: L. Uskov V., Howlett R., Jain L. (eds) *Smart Education and Smart e-Learning. Smart Innovation, Systems and Technologies*, vol 41. Springer, Cham. 2015. pp. 501-512, DOI: 10.1007/978-3-319-19875-0_45
22. P. C. de Groen, W. Tavanapong, J. Oh, and J. Wong. "Challenges Associated with Introduction of Real-time Quality monitoring and Feedback during Colonoscopy within a Secure, Tightly Regulated Health Care Network". *Frontiers in Artificial Intelligence and Applications*, pp. 592-601, vol. 262, 2014. DOI 10.3233/978-1-61499-405-3-592
23. Ruwan Nawarathna*, JungHwan Oh, Jayantha Muthukudage*, Wallapak Tavanapong, Johnny Wong, and Piet C. de Groen, "Real-time Phase Boundary Detection for Colonoscopy Videos using Motion Vector Templates", *4th MICCAI Workshop on Computational Abdominal Imaging (ABDI 2012) conjunction with 15th International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI 2012)*, pp. 116-125, October 2012, Nice, France.
24. 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)*. Pp. 61-72, November 2011, Gwangju, South Korea.
25. 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.
26. 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.

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

40. 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.
41. 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.
42. 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.
43. 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

44. 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.
45. 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.
46. 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.
47. 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.
48. 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.
49. 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.
50. 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.
51. 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. (Acceptance rate: 17%).
52. 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.

53. 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
54. 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.
55. 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.
56. 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.
57. 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.
58. 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.
59. 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.
60. 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.
61. 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.
62. 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.
63. 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.
64. 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.
65. 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.
66. 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.

67. 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.
68. 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.
69. 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.
70. 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.
71. 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.
72. 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.
73. 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.
74. 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.
75. 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.
76. 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.
77. 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.
78. 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.
79. 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.
80. 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.
81. 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.
82. 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)

83. De Groen, Piet; Enders, Felicity; Szewczynski, Michael; Katzka, David; Wong, Johnny; Oh, JungHwan; Tavanapong, Wallapak. "Awareness of Routine, Anonymous Video Recording Does Not Improve Quality of Colonoscopy" *AMERICAN JOURNAL OF GASTROENTEROLOGY*, Volume 109, p.S600 (2014).
84. Felicity Enders, Wallapak Tavanapong, Michael J. Szewczynski, JungHwan Oh, Johnny Wong, Piet De Groen. "Tu1018 Objective Evaluation of Colonoscopy: Development and Validation of an Automated Score". *AMERICAN JOURNAL OF GASTROENTEROLOGY*. May 2014, Volume 146, Issue 5, Supplement 1, Pages S-728–S-729. [http://dx.doi.org/10.1016/S0016-5085\(14\)62641-X](http://dx.doi.org/10.1016/S0016-5085(14)62641-X)
85. Piet C. de Groen, Nandakumar Srinivasan, Sean Stanek, Michael J. Szewczynski, Felicity Enders, Wallapak Tavanapong, JungHwan Oh, Johnny Wong. "Automated, Objective Measurements of Colonoscopy Technique: A Comparison Between Trainees and Staff". *Digestive Disease Week 2013*. Oral Session. Volume 144, Issue 5, Supplement 1, Pages S-15-S-16, May 2013, Orlando, FL, USA.
86. Erin W. Thackeray, Jithinraj Edakkanambeth Varayil, Michael J. Szewczynski, Felicity Enders, Wallapak Tavanapong, JungHwan Oh, Johnny Wong, and Piet C. de Groen. "Endoscopist Quality can be Determined by Automated Assessment of Quality Metrics". *Digestive Disease Week 2012*. Oral Session, May 2012, San Diego, CA, USA.
87. Gururaj J. Kolar, Felicity Enders, Michael J. Szewczynski, Wallapak Tavanapong, JungHwan Oh, Johnny Wong, and Piet C. de Groen. "Principal Component Analysis defines Two Sets of Endoscopic Features for Ulcerative Colitis". *Digestive Disease Week 2012*. Oral Session, May 2012, San Diego, CA, USA.
88. Nandakumar Srinivasan, Michael J. Szewczynski, Felicity Enders, Wallapak Tavanapong, JungHwan Oh, Johnny Wong, and Piet C. de Groen. "Will real-time feedback systems adversely affect colonoscopy practice?". *Digestive Disease Week 2012*. Poster Session, May 2012, San Diego, CA, USA.
89. Piet C. de Groen, Sean Stanek, DongHo Hong, Nandakumar Srinivasan, John B. League, JungHwan Oh, Johnny Wong, and Wallapak Tavanapong. "A Novel System Able to Provide Real-Time Feedback during Colonoscopy". *Digestive Disease Week 2012*. Poster Session, May 2012, San Diego, CA, USA.
90. 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.
91. 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.
92. 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.
93. 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.

94. 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.
95. 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.
96. 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.
97. 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.
98. 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

99. 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.
100. 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.

Presentations

1. JungHwan Oh (Author & Presenter), Colonoscopy Image and Video Analysis, an Invited talk for 14th International Conference on Digital Image Processing (ICDIP). May 20-23, 2022, China University of Geosciences, Wuhan, China. <http://www.icdip.org/invite.html>
2. Oh, J. (Author & Presenter), Peer-reviewed/Refereed, Accepted, "Classification of Ulcerative Colitis Severity in Colonoscopy Videos Using Vascular Pattern Detection". 11th MICCAI Workshop on Machine Learning in Medical Imaging (MLMI 2020) conjunction with 23th International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI 2020), October 4-8, 2020, Lima, Peru, Oral Presentation (virtual).
3. Oh, J. (Author & Presenter), Peer-reviewed/Refereed, Accepted, 14th International Symposium on Visual Computing (ISVC 2019), "Enhanced Approach for Classification of Ulcerative Colitis Severity in Colonoscopy Videos using CNN," Oral Presentation, Lake Tahoe, Nevada, USA, United States of America. 2019.
4. Oh, J. (Author & Presenter), Peer-reviewed/Refereed, Accepted, 3rd International Conference on Biomedical Imaging, Signal Processing (ICBSP 2018), "Non-Informative Frame Classification in Colonoscopy Videos using CNNs," Oral Presentation, Bari, Italy, Italy. 2018.
5. Oh, J. (Author & Presenter), 9th International Conference on Information Management and Engineering (ICIME 2017), "Classification of Ulcerative Colitis Severity in Colonoscopy Videos using CNN," Oral Presentation, Barcelona, Spain, Spain. 2017.
6. J. Oh, W. Tavanapong, J. Wong, and P. C. de Groen. "Ulcerative Colitis Severity Detection in Colonoscopy Videos". An invited talk for *the 16th KOCSEA (Korean Computer Scientists and Engineers Association in America) Technical Symposium 2015*, December 10-11, 2015 at Harvey Mudd College, Claremont, CA.

7. JungHwan Oh, "Automatic Real-time Medical Video Processing and Analysis", Korean-American Scientists and Engineers Association (KSEA) North Texas Chapter 2014 Fall Seminar, Carrollton, TX, Oct. 2014.
8. J. Oh, W. Tavanapong, J. Wong, and P. C. de Groen. "SAPPHIRE (Semi-Automated Parallel Programming Heterogeneous Intelligent Reconfigurable Environment)". an invited talk for the *13th KOCSEA (Korean Computer Scientists and Engineers Association in America) Technical Symposium 2012*, December 14-15, 2012 at Atlanta, Georgia.
9. JungHwan Oh, "Computer Guided Quality Control System for Colonoscopy". WBT(World's Best Technologies) Showcase 2009. March 24-25 2009, Arlington, TX.
10. JungHwan Oh, "Quality Control for Colonoscopy", The eighth annual Iowa Venture Capital & Entrepreneur Conference, Oct. 11, 2007, Des Moines, Iowa.

Teaching Experiences

- University of North Texas (Fall 2006 ~ present)
 - CSCE 5350 - Fundamentals of Database Systems (Database System I) (graduate level)
 - CSCE 5360 - Implementations and Practices of Database Systems (Database System II) (graduate level)
 - CSCE 6370 - Multimedia Database Systems (graduate level)
 - CSCE 5370 - Distributed and Parallel Database Systems (graduate level)
 - CSCE 5390 - Multimedia Computing (undergraduate and graduate levels)
 - CSCE 4350 - Introduction to Database Systems Design (undergraduate level)
 - CSCE 2050 - Computer Science III (C++: How to Program, undergraduate level)
- University of Texas at Arlington (Fall 2001 ~ Spring 2006)
 - Multimedia Database Systems (graduate level)
 - Introduction to Distributed and Parallel System (graduate level)
 - Multimedia and Network Research: What and How? (graduate level)
 - Database Systems and File Structures (undergraduate level)
- University of Central Florida (Fall 2000 ~ Spring 2001)
 - Database Concepts (undergraduate level)
 - Internet Publishing (undergraduate level)
 - Database Systems (undergraduate level)
 - Computer Fundamentals for Business (undergraduate level)

Student Supervision

- Ph. D. Students (Current):
 - Md Marufi Rahman (PhD committee chair)
 - Md Farhad Mokter (PhD committee chair)
 - Haili Wang (PhD committee member)
 - Shuo Sun (PhD committee member)
 - Mohammad Al Olaimat (PhD committee member)
- Ph. D. Students (Graduated from UNT):
 - Bhuvan Mittal (PhD committee chair)
 - Ashok Dahal (PhD committee Chair)
 - Ruwan Dharshana Nawarathna (PhD committee chair)
 - Jayantha Kumara Muthukudage (PhD committee chair)
 - Robin Chataut (PhD committee member)
 - Ibrahim Olokodana (PhD committee member)

- Venkata Prasanth Yanambaka (PhD committee member)
- Sultan Alotaibi (PhD committee member)
- Shital Joshi (PhD committee member)
- Yiheng Liang (PhD committee member)
- M.S. thesis students (Graduated from UNT)
 - Venkata Leela Sure (MS committee chair)
 - Avnish Malik (MS committee chair)
 - Venkata Praveen karri (MS committee chair)
 - Rahul Shukla (MS committee member)
 - Sagarika Adepu (MS committee member)
- Ph. D. Students (Graduated from UTA):
 - Sae Hwang (PhD committee chair)
 - JeongKyu Lee (PhD committee chair)
- M.S. thesis students (Graduated from UTA):
 - Arash Mirzaei (MS committee chair)
 - Jay Cox (MS committee chair)
 - Mahmudul Hassan Khan (MS committee chair)
 - Yong Hwan An (MS committee chair)
 - Babitha Bandi (MS committee chair)
 - Nandakumar Baskaran (MS committee chair)
 - Maruthi Thenneru (MS committee chair)
 - Eswar Vemur (MS committee chair)

Synergistic Activities

Professional level

- NSF panel review: III Med Health Informatics Panel at NSF on 03/27/2007 through 03/28/2007.
- Organizing Committee
 - Travel Grant Chair: The 22nd ACM International Conference on Multimedia. Nov. 3 -7. 2014. Orlando Florida, 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
- Program Committee
 - Committee Member, Technical Program Committee, 2022 14th International Conference on Digital Image Processing (ICDIP). May 20-23, 2022 | China University of Geosciences, Wuhan, China. <http://www.icdip.org/tc.html>
 - Committee Member, Technical Program Committee, Sanya, China. (2019). 2019 2nd International Conference on Algorithms, Computing and Artificial Intelligence Sanya, China, December 20-22, 2019
 - The 31st IEEE International Symposium on Computer-Based Medical Systems (CBMS 2018). Karlstad, Sweden, 18 - 21 June 2018.
 - The 8th ACM Conference on Bioinformatics, Computational Biology, and Health Informatics (ACM BCB), Boston, MA, August 21-24, 2017.
 - The 30th IEEE International Symposium on Computer-Based Medical Systems (CBMS 2017). Thessaloniki, Greece, 22 - 24 June 2017.

- The 29th IEEE International Symposium on Computer-Based Medical Systems (CBMS 2016) Dublin (June 20, 2016), Ireland, and in Belfast Northern Ireland (June 21 – 23, 2016).
- The 28th IEEE International Symposium on Computer-Based Medical Systems (CBMS 2015) São Carlos and Ribeirão Preto - Brazil, June 22th to 25th, 2015.
- The 26th IEEE International Symposium on Computer-Based Medical Systems (CBMS 2013) Porto, Portugal, June 20th to 22th, 2013.
- The 25th IEEE International Symposium on Computer-Based Medical Systems (CBMS 2012), Rome, Italy, on 20-22 June 2012.
- 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.
- MDM 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:
 - Reviewer, Conference Papers, 2022 14th International Conference on Digital Image Processing (ICDIP). May 20-23, 2022 | China University of Geosciences, Wuhan, China.
 - Reviewer, Journal Article, Diagnostics - MPDI. (Jan. 2022).
 - Reviewer, Journal Article, Computer Methods and Programs in Biomedicine. (Nov. 2021).
 - Reviewer, Journal Article, Journal of Clinical Medicine. (Apr. 2021).
 - Reviewer, Journal Article, Diagnostics - MPDI. (Nov. 2020).
 - Reviewer, Journal Article, Computer Methods and Programs in Biomedicine. (Nov. 2020).
 - Reviewer, Journal Article, Gastroenterology. (Oct. 2020).
 - Reviewer, Journal Article, IEEE Access. (Aug. 2020).
 - Reviewer, Journal Article, IEEE Transactions on Neural Networks and Learning Systems. (Jul. 2020).
 - Reviewer, Journal Article, MDPI Medicina. (Jul. 2020).
 - Reviewer, Journal Article, MDPI AG Applied Sciences. (Apr. 2020).
 - Reviewer, Journal Article, Journal of Clinical Medicine. (Mar. 2020).
 - Reviewer, Journal Article, Computer Methods and Programs in Biomedicine. (Apr. 2019).
 - Reviewer, Journal Article, Computer Methods and Programs in Biomedicine. (Jan. 2019).
 - Reviewer, Journal Article, Expert Systems With Applications + OA Mirror. (Apr. 2019).
 - Reviewer, Journal Article, Journal of Clinical Medicine. (Sep. 2019).
 - The 31st IEEE International Symposium on Computer-Based Medical Systems (CBMS 2018). Karlstad, Sweden, 18 - 21 June 2018.
 - Expert Systems With Applications, Journal, Oct. 2018.
 - IEEE Journal of Biomedical and Health Informatics, Feb. 2018.
 - MDPI AG Applied Sciences, Aug. 2017.
 - Journal of Sensors, May 2017.
 - International Journal of Computer Assisted Radiology and Surgery, Feb. 2017.
 - The 8th ACM Conference on Bioinformatics, Computational Biology, and Health Informatics (ACM BCB), Boston, MA, August 21-24, 2017.
 - The 30th IEEE International Symposium on Computer-Based Medical Systems (CBMS 2017). Thessaloniki, Greece, 22 - 24 June 2017.
 - The 29th IEEE International Symposium on Computer-Based Medical Systems (CBMS 2016) Dublin (June 20, 2016), Ireland, and in Belfast Northern Ireland (June 21 – 23, 2016).
 - Computer Methods and Programs in Biomedicine, Oct. 2016.
 - IEEE Transactions on Biomedical Engineering, Aug. 2016.
 - Pattern Analysis and Applications Journal, Jul. 2016.
 - 14th International Workshop on Content-based Multimedia Indexing (CBMI 2016), June 15-17, 2016, Bucharest, Romania.
 - International Journal of Computer Assisted Radiology and Surgery, Feb. and May 2016.
 - iMedPub Journals, Nov. 2015.
 - Transactions on Biomedical Engineering, July 2015.

- MICCAI 2015, the 18th International Conference on Medical Image Computing and Computer Assisted Intervention, October 5th to 9th, 2015 in Munich, Germany.
- The 28th IEEE International Symposium on Computer-Based Medical Systems (CBMS 2015) São Carlos and Ribeirão Preto - Brazil, June 22th to 25th, 2015.
- Nature Reviews Gastroenterology and Hepatology, Oct. 2104.
- The 22nd ACM International Conference on Multimedia. Nov. 3 -7. 2014. Orlando Florida, USA.
- Neurocomputing, Nov. 2013, (<http://www.journals.elsevier.com/neurocomputing/>).
- Pattern Analysis and Applications, Oct. 2013, (<http://www.editorialmanager.com/paaa/>).
- International Journal of Biomedical Imaging, June 2013, (<http://www.hindawi.com/journals/ijbi/>)
- Computer Methods and Programs in Biomedicine, Feb. 2013.
- The 26th IEEE International Symposium on Computer-Based Medical Systems (CBMS 2013) Porto, Portugal, June 20th to 22th, 2013.
- Journal of Electronic Imaging. Oct. 2012
- Journal of Pattern Analysis and Applications, Nov. 2012.
- Journal of Medical Image Analysis, May. 2012.
- The 25th IEEE International Symposium on Computer-Based Medical Systems (CBMS 2012), Rome, Italy, on 20-22 June 2012.
- Computer Methods and Programs in Biomedicine, Oct. 2011.
- Journal of Medical Image Analysis, Feb. 2011.
- 33rd Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC '11), Aug. 30 – Sep. 3, 2011, Boston, MA USA.
- 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.
- Journal of Medical Image Analysis, Sep. 2009.
- 6th International Symposium on Image and Signal Processing and Analysis (ISPA 2009), September 16-18, 2009, Salzburg, Austria.
- 31st Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC'09). September, 2-6, 2009, Minneapolis, Minnesota, USA.
- 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:
 - Member, Korean-American Scientists and Engineers Association (KSEA, <https://ksea.org/>). (2012 - 2018).
 - North Texas Chapter President, Korean-American Scientists and Engineers Association (<https://nt.ksea.org/>). (August 2014 - August 2016).
 - 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.
 - 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.

University level

- Committee Member, Faculty Information System (FIS) Implementation for promotion and tenure group. (August 2017 - May 2018).
- Committee Member, University Writing Committee. (August 2012 - May 2018).
- Committee Chair, PAC. (2012 - 2013).

College level

- Committee Member, College Ad-hoc committee for the annual faculty (teaching and research) awards. (May 2015 - May 2016).

Department Level

- Faculty Mentor, Mentoring clinical/TT assistant professor, Active. (February 2022 - Present).
- mentor of Jesus ubaldo Quevedo-Torrero.
- Faculty Mentor, Mentoring clinical/TT assistant professor, Active. (October 2021 - Present).
- mentor of Tejasvi Parupudi
- Committee Member, Clinical Faculty Search Committee. (September 2021 - Present).
- Committee Member, PAC. (2012 - Present).
- Committee Member, Awards and Scholarship Committee. (January 2018 - May 2020).
- Committee Member, Retention Committee. (September 2018 - May 2019).
- Committee Member, Graduate Committee. (2014 - 2016).

Honors and Awards

- Certificate of Reviewing, Expert Systems with Applications. 2018.

- Received an acknowledgement letter for committed teacher from Office of the Provost and Vice President for Academic Affairs at June 4, 2014.
- Received Certificate of Appreciation (2013) from Journal of Electronic Imaging
- Received Certificate of Appreciation (2012) from Journal of Electronic Imaging
- Minnesota Governor's Award at American College of Gastroenterology. President's Plenary Session, October 2006.
- 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. Wallapak Tavanapong, Iowa State University, Ames, Iowa.
- Prof. Johnny Wong, Iowa State University, Ames, Iowa.
- Prof. Piet C. de Groen, University of Minnesota, Minneapolis, MN.