

## B. PRABHAKARAN

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### EDUCATION

1. **Doctor of Philosophy**, Department of Computer Science & Engineering, Indian Institute of Technology, Chennai, (formerly, Madras) - 600 036, INDIA, July 1995.  
**Dissertation Title :** *Formal Models and Protocols For Distributed Orchestrated Presentation.*  
**Dissertation Objective :** The dissertation focuses on characterization of the functional and performance behavior of a distributed orchestrated multimedia presentation. The functional behavior is characterized by the synchronization characteristics and the performance behavior by the network traffic generated by the application. (**Advisor :** Prof S.V. Raghavan).
2. **Master of Science**, Department of Computer Science & Engineering, Indian Institute of Technology, Chennai, (formerly, Madras) - 600 036, INDIA, July 1990.
3. **Bachelor of Engineering**, Electronics & Communication, Madurai-Kamaraj University, August 1986.

### PROFESSIONAL EXPERIENCE

1. Associate Professor, Department of Computer Science, University of Texas at Dallas, Richardson, TX 75083-0688, USA. From September 2004.
2. Assistant Professor, Department of Computer Science, University of Texas at Dallas, Richardson, TX 75083-0688, USA. January 2001 - August 2004.
3. Assistant Professor, School of Computing, National University of Singapore, Singapore 117543. Period: September 1997 - June 2001.
4. Research Associate, Department of Computer Science, University of Maryland, College Park, MD 20742, USA, September 1995 - September 1997.
5. Scientific Officer, Department of Computer Science & Engineering, Indian Institute of Technology, Madras - 600 036, INDIA, December 1989 - September 1996.
6. Project Officer, Project ERNET, Department of Computer Science & Engineering, Indian Institute of Technology, Madras - 600 036, INDIA, March 1987 - December 1989.

### PROFESSIONAL EXPERIENCE: Joint & Visiting Appointments

1. Faculty, Computer Engineering Program, School of Engineering & Computer Science, University of Texas at Dallas, 2002 - present.
2. Faculty, Telecom Engineering Program, School of Engineering & Computer Science, University of Texas at Dallas, 2002 - present.

3. Faculty, Institute for Interactive Arts & Engineering, University of Texas at Dallas, 2002 - present.
4. Consultant, NEC USA C&C Research Labs, San Jose, CA, July – December 2001.
5. Visiting Assistant Professor, Department of Computer Science, University of Texas at Dallas, USA, August - December 2000.
6. United Nations Fellow, Department of Electrical Engineering & Computer Science (EECS), University of California, Berkeley, USA, Fall 1989.

## PROFESSIONAL RECOGNITION & HONORS

1. Recipient, US National Science Foundation (NSF) CAREER Award, 2003. Funding: \$400,000 from September 1, 2003 - August 31, 2008.
2. 2007 School of Engineering Outstanding Service Award for Computer Science Department, 2007: \$25,000 grant.
3. Anston Clark Foundation Grant (Jointly awarded to B. Prabhakaran and R.N. Uma), “Scheduling delivery of multimedia information”, Grant amount \$48,000, 2002.

## Research Activities

### I. Research Publications

#### A. Refereed Journals

1. “A Body Sensor Network with Electromyogram and Inertial Sensors: Multi-Modal Interpretation of Muscular Activities”, H. Ghasemzadeh, R. Jaffari, and B. Prabhakaran, accepted for publication in *IEEE Transactions on Information Technology in BioMedicine*.
2. "Knowledge Discovery from 3D Human Motion Streams through Semantic Dimensional Reduction", Yohan Jin and B. Prabhakaran, accepted for publication in *The ACM Transactions on Multimedia Computing, Communications and Applications (ACM TOMCCAP)*.
3. “Analyzing Motoric and Physiological Data in Describing Upper Extremity Movement in the Aged”, G.N. Pradhan, N. Engineer, M. Nadin, and B. Prabhakaran, accepted for publication in *Springer International Journal Universal Access in the Information Society (UAIS)*.
4. “Architecture and Protocol Design for A Pervasive Robot Swarm Communication Networks” Ming Li, John Harris, Min Chen, Shiwen Mao, Yang Xiao, Walter Read, B. Prabhakaran, accepted for publication in *Wireless Communications and Mobile Computing*, John Wiley & Sons Publishers.
5. "Blind Robust Watermarking of 3-D Motion Data", P. Agarwal, and B. Prabhakaran, *The ACM Transactions on Multimedia Computing, Communications and Applications (ACM TOMCCAP)*, Vol. 6(1), Feb. 2010 (To Appear - page info not available).
6. “Indexing 3D Human Motion Repositories for Content-based Retrieval”, G. N. Pradhan and B. Prabhakaran, *IEEE Transactions on Information Technology in BioMedicine*, Vol. 13, No. 5, pp. 802-809, September 2009.
7. "Knowledge Based Image Annotation Refinement", Yohan Jin, Latifur Khan, B.Prabhakaran, accepted for publication, *Journal of Signal Processing Systems*, Springer Publishers. Published On-line First, September 2009, to be in print soon.

8. "On Supporting High Quality 3D Geometry Multicasting over IEEE 802.11 Wireless LANs", Hui Li, Ming Li, B. Prabhakaran, *IEEE Transactions on Computers*, Vol. 58, No. 4, pp. 558-571, April 2009.
9. "On Supporting Reliable QoS in Multi-hop Multi-rate Mobile Ad Hoc Networks", Ming Li, B. Prabhakaran, accepted for publication in *ACM/Springer/URSI Wireless Networks (WINET)*. Published On-line First, March 2009, to be in print soon.
10. "Blind Robust Watermarking of Point Sampled Geometry", P. Agarwal, and B. Prabhakaran, *IEEE Transactions on Information Forensics and Security*, Vol 4, No. 1. Pp. 36-48, March 2009.
11. "Dynamic Priority Re-allocation Scheme for Quality of Service in IEEE 802.11e Wireless Networks", Ming Li, Hua Zhu, B. Prabhakaran, accepted for publication, *ACM/Springer/URSI Wireless Networks (WINET)*. Published On-line February 2009, to be in print soon.
12. "Reliable Transmission of Audio Streams in Lossy Channels Using Application Level Data Hiding", Parag Agarwal and B. Prabhakaran, *Journal of Multimedia*, Academy Publisher, Vol. 3, Issue 5, pp. 1-8, Dec. 2008.
13. "Hand Gesture-based Computing for Hearing and Speech Impaired", Gaurav N. Pradhan, Chuanjun Li, B. Prabhakaran, *IEEE MultiMedia Magazine*, Vol. 15, No. 2, pp. 20-27, April-June 2008.
14. "Partial Fuzzy Query Resolution for Animation Authoring", Phani S Kotharu and B. Prabhakaran, *ACM Transactions on Multimedia Computing, Communications, and Applications (TOMCCAP)*, Vol.4, Issue 2, Article 4, January 2008.
15. "Minimizing Collision Pairs Searched in Interactive Animation Authoring", Parag Agarwal, Srinivas Rajagopalan and B. Prabhakaran, *The Visual Computer*, Volume 24, Number 5, pp. 347-359, May, 2008.
16. "Motion Stream Segmentation and Recognition by Classification", Chuanjun Li, P. R. Kulkarni and B. Prabhakaran, *International Journal of Multimedia Tools and Applications (MTAP)*, Springer, Vol.35(1), pp. 55-70, October 2007.
17. "Segmentation and Recognition of Motion Streams by Similarity Search", Chuanjun Li, S. Q. Zheng and B. Prabhakaran, *ACM Transactions on Multimedia Computing, Communications and Applications (ACM TOMCCAP)*, Vol. 3(3), Article 16, August 2007.
18. "Animation Toolkit Based on Database Approach for Reusing Motions and Models", Akanksha, Z. Huang, B. Prabhakaran, and C.R. Ruiz, *Multimedia Tools and Applications*, Springer, Volume 32, Number 3, pp. 293-327, March, 2007.
19. "Middleware for Streaming 3D Progressive Meshes over Lossy Networks", Hui Li, Ming Li, B. Prabhakaran, *ACM Transactions on Multimedia Computing, Communications, and Applications (TOMCCAP)*, Vol. 2, Issue 4, pp. 282 – 317, November 2006.
20. "Indexing of Motion Capture Data for Efficient and Fast Similarity Search", Chuanjun Li and B. Prabhakaran, *Journal of Computers (JCP)*, Academy Publisher, Vol. 1(3), pp. 35-42, June 2006.
21. "End-to-end QoS Framework for Heterogeneous Wired-cum-Wireless Networks", Ming Li, Hua Zhu, Imrich Chlamtac, B. Prabhakaran, *ACM/Springer Wireless Networks (WINET)*, Volume 12, Number 4, pp. 439-450, August 2006.
22. "Real-time Classification of Variable Length Multi-attribute Motion Data", Chuanjun Li, Latifur Khan and B. Prabhakaran, *Knowledge and Information Systems: An International*

- Journal (KAIS)*, Springer, Vol.10, No. 2, pp. 163-183, August 2006.
23. "MAC Layer Admission Control and Priority Re-allocation for Handling QoS Guarantees in Non-cooperative Wireless LANs", Ming Li, and B. Prabhakaran, *ACM/Springer Mobile Networks and Applications (MONET)*, Special issue on Non-cooperative Computing in Wireless Networks, Vol. 10, No. 6, pp. 947-959, December 2005.
  24. "Flexible Disk Scheduling Strategies for Multimedia Presentation Servers", S. Emilda, L. Jacob, O. Daescu, and B. Prabhakaran, *Multimedia Tools and Applications*, Kluwer Academic Publishers, Volume 26, Number 1, pp. 81-99, February 2005.
  25. "Survey of Quality of Service in IEEE 802.11 Networks", Hua Zhu, Ming Li, Imrich Chlamtac, and B. Prabhakaran, *IEEE Wireless Communication*, Volume 11, Issue 4, August 2004, pp. 6 - 14.
  26. "Application-layer Protocol for Collaborative Multimedia Presentations", E. Hwang and B. Prabhakaran, *Multimedia Tools and Applications journal*, Kluwer Academic Publishers, Volume 21, Issue 2, pp. 103-123, November 2003.
  27. "Unified Read Requests", E. Hwang and B. Prabhakaran, *Multimedia Tools and Applications journal*, Kluwer Academic Publishers, Volume 20, Number 3, pp. 203-224, August 2003.
  28. "Experiences With an Object-level Scalable Web Framework", B. Prabhakaran, Yuguang Tu, and Yin Wu, *Journal of Network and Computer Applications*, Academic Press, Vol. 26, Issue 2, pp. 163-196, April 2003.
  29. "Visualizing Animation Databases", Akanksha, Huang Z., Prabhakaran B. and Ruiz, Jr. C. R., *International Journal of Software Engineering and Knowledge Engineering (IJSEKE)*, Vol. 13, No. 1, pp. 1-25, February 2003.
  30. "Presentation Planning For Distributed Video Systems", E. Hwang, B. Prabhakaran, and V.S. Subrahmanian, *IEEE Transactions on Knowledge and Data Engineering*, Vol. 14, No. 5, pp. 1059-1078, September/October 2002.
  31. "Multimedia Information Delivery Over Wireless Channels", B. Prabhakaran, *Multimedia Tools and Applications journal*, Kluwer Academic Publishers, Vol. 15, No. 2, pp. 115-124, November 2001.
  32. "Adaptive Multimedia Presentation Strategies", B. Prabhakaran, *Multimedia Tools and Applications journal*, Kluwer Academic Publishers, Vol. 12, No. 2-3, pp. 281-298, November 2000.
  33. "Retrieval Scheduling Algorithm For Collaborative Multimedia Presentations", P. Bai, B. Prabhakaran, and A. Srinivasan, *ACM/Springer-Verlag Multimedia Systems Journal*, Vol. 8, No. 2, pp. 146-155, March 2000.
  34. "Collaborative Multimedia Presentations in Mobile Environments", B. Prabhakaran, *Multimedia Tools and Applications journal*, Kluwer Academic Publishers, Vol. 9, No. 1, pp. 95-109, July 1999.
  35. "Collaborative Multimedia Documents: Authoring and Presentation", K.S. Candan, B. Prabhakaran, and V.S. Subrahmanian, *International Journal of Intelligent Information Systems*, Vol. 13, No. 12, pp. 1059-1111, 1998.
  36. "Retrieval Schedules Based on Resource Availability and Flexible Presentation Specifications", K.S. Candan, B. Prabhakaran and V.S. Subrahmanian, *ACM/Springer-Verlag Multimedia Systems Journal*, Vol. 6, No. 4, pp. 232-250, July 1998.
  37. "Synchronization Representation and Traffic Source Modeling in Orchestrated

- Presentation", S.V. Raghavan, B. Prabhakaran and Satish K. Tripathi, *IEEE Journal on Selected Areas in Communication*, special issue on Multimedia Synchronization, Vol. 14, No. 1, pp. 104-113, January 1996.
38. "Handling QoS Negotiations in Orchestrated Multimedia Presentations", S.V.Raghavan, B. Prabhakaran, and Satish K. Tripathi, *Journal of High Speed Networks*, Vol. 5, No. 3, pp. 277-292, 1996.
39. "Synchronization Models For Multimedia Presentation With User Participation", B. Prabhakaran and S.V. Raghavan, *ACM/Springer-Verlag Multimedia Systems*, Vol. 2, No. 2, pp. 53-62, August 1994.

### **Guest Editorials in Journals:**

40. "Multimedia Semantics", B. Prabhakaran, *Journal of Signal Processing Systems* (Springer), to appear in 2010.
41. "Techniques for multimedia Presentation", B. Prabhakaran, *Multimedia Tools and Applications (MTAP)*, Volume 12, Numbers 2-3 / November, 2000, pp. 107-108.
42. "Multimedia Authoring & Presentation Techniques", B. Prabhakara, *ACM/Springer Multimedia Systems journal*, Volume 8, Number 3 / October, 2000, pp. 157.
43. "Mobile Computing Environments for Multimedia Systems", B. Prabhakaran and M. Kavehrad, *Multimedia Tools and Applications (MTAP)*, Volume 9, Number 1 / July, 1999, pp. 1-2.

### **B.1 Books**

1. Author of book *Multimedia Database Management Systems*, Kluwer Academic Publishers, Boston, 1996.
2. Edited Book: *Mobile Computing Environments for Multimedia Systems*, Kluwer Academic Publishers. Editors: B. Prabhakaran and M. Kavehrad.

### **B.1 Book Chapters**

3. Author of a chapter on *Multimedia Synchronization* in *Design and Applications of Multimedia Systems*, Kluwer Academic Publishers. Editor : Prof Borko Furht.
4. Author of a chapter on *Multimedia Synchronization* in *Handbook of Multimedia Systems*, CRC Press, Florida.
5. Author of a chapter on *Temporal Models and Their Applications in Multimedia Information Retrieval* in the edited book *Design and Management of Multimedia Information Systems: Opportunities and Challenges*, Idea Group Publishing, Hershey, USA, 2001.
6. Author of a chapter on *Animation Databases*, in the edited book *Handbook of Video Databases*, pp. 417-440, CRC Press, Florida in 2003.
7. "Middleware for Streaming 3D Progressive Meshes Over Lossy Networks", H. Li and B. Prabhakaran, Chapter 33, *Encyclopedia of Multimedia*, Springer, pp. 409-416, 2005.
8. "Feature Selection for Classification of Variable length Multi-attribute Motions", Chuanjun Li, Latifur Khan and B. Prabhakaran, chapter 7, *Multimedia Data Mining and Knowledge Discovery*, V. A. Petrushin and L. Khan, eds., Springer, pp. 129-152, 2007, ISBN: 978-1-84628-436-6.

9. "Multimedia Databases", B. Thuraisingham, L. Khan, and B. Prabhakaran, in *Encyclopedia of Multimedia*, CRC Press.
10. "Managing and Mining Multimedia Data, Animations and Annotation", B. Thuraisingham, L. Khan, B. Prabhakaran, and L. Wang, Chapter in Edited Book, *Wiley Encyclopedia of Computer Science and Engineering 2008*, John Wiley & Sons.
11. "3D Human Motion Control Through Refined Video Gesture Annotation" , Yohan Jin, Myunghoon Suk, and B.Prabhakaran, Chapter in Edited Book, *Handbook of Digital Media in Entertainment and Arts*, Springer.

#### **Short Articles:**

12. "Compressed progressive meshes", H. Li and B. Prabhakaran, Chapter 33, *Encyclopedia of Multimedia*, Springer, pp. 84-85, 2005.
13. "Progressive Forest split", H. Li and B. Prabhakaran, Chapter 33, *Encyclopedia of Multimedia*, Springer, pp. 714-715, 2005.
14. "Valence driven conquest", H. Li and B. Prabhakaran, Chapter 33, *Encyclopedia of Multimedia*, Springer, pp. 857-858, 2005.

#### **C. Refereed Conference Publications**

1. "Multimedia Aspects in Pervasive Healthcare", Duk-Jin Kim and B. Prabhakaran, Proceeding of the 17<sup>th</sup> ACM international Conference on Multimedia (Vancouver, British Columbia, Canada, October, 2009). MM '09. ACM, New York, NY, pp. 921-922 (Tutorial Presentation).
2. "Evaluating the Effect of Local Variations in Visually-Similar Motions on the Clustering of Body Sensor Features", G.N. Pradhan and B. Prabhakaran, Body Sensor Networks 2009 (BSN 2009), Berkeley, CA, June 2009.
3. "Analyzing Coordination of Upper and Lower Extremities in Human Gait," D. Kim, G. Pradhan, and B. Prabhakaran, Proceedings of the 4th International Conference on Body Area Networks (BodyNets2009), LA, CA, April 2009.
4. "Storage, retrieval, and communication of body sensor network data," G.N. Pradhan and B. Prabhakaran Proceeding of the 16<sup>th</sup> ACM international Conference on Multimedia (Vancouver, British Columbia, Canada, October 26 - 31, 2008). MM '08. ACM, New York, NY, pp. 1161-1162 (Tutorial Presentation).
5. "Tamper Proofing Mechanisms for Motion Capture Data", Parag Agarwal, and B.Prabhakaran, Proceedings of the 10th ACM Workshop on Multimedia and Security (Oxford, United Kingdom), pp. 91-100, September, 2008.
6. "A Robust Spectral Approach for Blind Watermarking of Manifold Surfaces", Yang Liu, B. Prabhakaran, Xiaohu Guo, Proceedings of the 10th ACM Workshop on Multimedia and Security (Oxford, United Kingdom), pp. 43-52, September, 2008.
7. "Fault Detection Framework for Video Surveillance Systems", J. Zhou, S. Ntafos, and B. Prabhakaran, Proceedings of IEEE Fifth International Conference on Advanced Video and Signal Based Surveillance, September 2008. pp. 219-226, AVSS '08.
8. "Analyzing motoric and physiological data in describing upper extremity movement in the aged", Gaurav N. Pradhan, Navzer Engineer, Mihai Nadin, B. Prabhakaran,

- International Conference on Pervasive Technologies Related to Assistive Environments (PETRA 2008), vol. 282. ACM, July 16-19, 2008, Athens, Greece. **(Among Top Papers Selected for a Journal Special Issue).**
9. "The Randomized. Approximating Graph Algorithm for Image Annotation Refinement Problem," Yohan Jin, Kibum Jin, Latifur Khan, B. Prabhakaran, IEEE Computer Society Conference on Computer Vision and Pattern Recognition Workshops, (CVPRW '08) July 2008. **(Best Paper Award).**
  10. "Loss Tolerance Scheme for 3D Progressive Meshes Streaming over Networks," Hui Li, Ziyang Tang, Xiaohu Guo, B. Prabhakaran, Proceedings of IEEE International Conference on Multimedia & Expo (ICME 2008), pp. 501 - 504, Hannover, Germany, June 2008.
  11. "Context Assistance in Media Interpretations", Yohan Jin, Balakrishnan Prabhakaran, Invited Position Statement, Dagstuhl Seminar on Contextual and Social Media Understanding and Usage, Dagstuhl Castle, Germany, June 16-21, 2008.
  12. "Body Sensor Networks to Evaluate Standing Balance: Interpreting Muscular Activities Based on Inertial Sensors", R. Ramachandran, L. Ramanna, H. Ghasemzadeh, G.N. Pradhan, R. Jafari, B. Prabhakaran, The 2nd International Workshop on Systems and Networking Support for Healthcare and Assisted Living Environments (HealthNet), June 2008, Breckenridge, CO.
  13. "QOAR: Adaptive QoS Scheme in Multi-rate Wireless LANs", Ming Li, Yang Xiao, Hua Zhu, Imrich Chlamtac, B. Prabhakaran, to appear in Proceedings of IEEE ICC 2008, Beijing, China, pp. 2900-2904, May 19-23, 2008.
  14. "Adaptive Frame Concatenation Mechanism for QoS in Multi-rate Wireless Ad Hoc Networks", Ming Li, Hua Zhu, Yang Xiao, Imrich Chlamtac, B. Prabhakaran, to appear in Proceedings of IEEE INFOCOM 2008, pp.1112-1120, Phoenix, Arizona, April 2008.
  15. "Analysis of human performance using physiological data streams", G. N. Pradhan, B. Prabhakaran, Third International Conference on Body Area Networks 2008, pp. 1-4, March 13-15, 2008, Tempe, Arizona.
  16. "Semantic Quantization of 3D Human Motion Capture Data Through Spatial-Temporal Feature Extraction", Yohan Jin and B. Prabhakaran, In Proc. Of International Multimedia Modeling Conference (MMM08'), pp 318-328. Kyoto, Japan Jan. 9-11, 2008.
  17. "Content Based Querying and Searching for 3D Human Motions", Manoj Pawar, Gaurav N. Pradhan, Kang Zhang, B. Prabhakaran, Proceedings of ACM Multimedia Modeling Conference (MMM) 2008, pp. 446-455, Kyoto, Japan, January 9-11, 2008.
  18. "An Integrated Mobile Wireless System for Capturing Physiological Data Streams during a Cognitive-motor Task: Applications for Aging", G. N. Pradhan, N. Engineer, M. Nadin, B. Prabhakaran, 2007 IEEE Dallas Engineering in Medicine and Biology Workshop, pp. 67-70, November, 2007.
  19. "Design and Development of A Secure Real-time Monitoring, Control, and Coordination Systems for Intelligent Robot Swarms", Ming Li, Anthony Alvarez, Francesco De Pellegrini, Imrich Chlamtac, B. Prabhakaran, ACM/IEEE ROBOCOMM 2007, October 2007.
  20. "Robust blind Watermarking Mechanism for Point Sampled Geometry", P. Agarwal, B. Prabhakaran, Proceedings of ACM Multimedia and Security Workshop 2007 (MM&Sec 2007), pp. 175-186, September 2007, Dallas, TX, USA.
  21. "Progressive Compression Invariant Semi-fragile Watermarks for 3D Meshes", Puneet

- Maheshwari, Parag Agarwal, B. Prabhakaran, Proceedings of ACM Multimedia and Security Workshop 2007 (MM&Sec 2007), pp. 245-250, September 2007, Dallas, TX, USA.
22. "On Supporting High Quality 3D Geometry Multicasting over IEEE 802.11 Wireless LANs", Hui Li, Ming Li, B. Prabhakaran, IEEE BROADNETS, September 2007.
  23. "Integration of Motion Capture and EMG data for Classifying the Human Motions", Gaurav N. Pradhan, Navzer Engineer, Mihai Nadin, Balakrishnan Prabhakaran, Proceedings of International Workshop on Ambient Intelligence, Media, and Sensing (AIMS) 2007, (held along with International Conference on Data Engineering (ICDE), April 20, 2007, Istanbul, Turkey.
  24. "Data Hiding based Compression Mechanism for 3D Models", Hui Li, Parag Agarwal, Balakrishnan Prabhakaran, IEEE Data Compression Conference 2007 (DCC 2007).
  25. "Shear Invariant 3D Model Retrieval", Sagar Naik and B. Prabhakaran Proceedings of International Workshop on Vision Geometry XV, edited by Longin Jan Latecki, David M. Mount, Angela Y. Wu, Proceedings of SPIE-IS&T Electronic Imaging, SPIE Vol. 6499, 64990A, January 2007.
  26. "Hierarchical Indexing Structure for 3D Human Motions", Gaurav N. Pradhan, Chuanjun Li, Balakrishnan Prabhakaran, Proceedings of International Conference on Multimedia Modeling Conference (MMM) 2007, pg. 386-396, January 9-12, Singapore.
  27. "Tamper Proofing of 3D motion Data Streams", Parag Agarwal, Balakrishnan Prabhakaran, Proceedings of 13th International Multimedia Modelling Conference 2007 (MMM 2007), Singapore, LNCS 4351 (Part 1) pp. 731-740, January 2007.
  28. "Robust Blind Watermarking Mechanism for Motion Data Streams", Parag Agarwal, Ketaki Adi, Balakrishnan Prabhakaran, Proceedings of ACM Multimedia and Security Workshop, Geneva, Switzerland, September 26-27, 2006, pp. 230 - 235.
  29. "SVD-Based Tamper Proofing Of Multi-Attribute Motion Data", Parag Agarwal, Ketaki Adi, Balakrishnan Prabhakaran, Proc. of The 12th International conference on Distributed Multimedia Systems (DMS), Grand Canyon, August 2006, pp. 46-52.
  30. "Uncertainty: An Extra Layer of Security for Unauthorized Traffic based Web Services", Parag Agarwal, Balakrishnan Prabhakaran, Bhavani Thuraisingham, Proc. of The 12th International conference on Distributed Multimedia Systems (DMS), Grand Canyon, August 2006, pp. 52 - 58
  31. "Motion Stream Segmentation and Recognition by Classification", Chuanjun Li, P. R. Kulkarni and B. Prabhakaran, *Proceedings of the 31st IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP 2006)*, pp. V-537- V-540, May 2006.
  32. "A Novel Indexing Approach for Efficient and Fast Similarity Search of Captured Motions", Chuanjun Li and B. Prabhakaran, *Proceedings of the 10th Pacific-Asia Conference on Knowledge Discovery and Data Mining (PAKDD 2006)*, pp. 689-698, April 2006.
  33. "On Supporting Reliable QoS in Multi-hop Multi-rate Mobile Ad Hoc Networks", Ming Li, B. Prabhakaran, *Proceedings of the First IEEE International Workshop on Next Generation Wireless Networks (WoNGeN'05)*, Goa, India, Dec. 18-21, 2005. (**Best Student Paper Award**)
  34. "A Similarity Measure for Motion Stream Segmentation and Recognition", Chuanjun Li and B. Prabhakaran, *Proceedings of the Sixth International Workshop on Multimedia*

- Data Mining (MDM/KDD)*, Chicago, IL USA, pp. 89-94, August 2005.
35. "Similarity Measure for Multi-Attribute Data", Chuanjun Li, B. Prabhakaran and S.Q. Zheng, *Proceedings of IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP 2005)*, Philadelphia, PA USA, pp. 1149 - 1152, March 2005.
  36. "Indexing of Variable Length Multi-Attribute Motion Data", Chuanjun Li, Gaurav Pradhan, S.Q. Zheng and B. Prabhakaran, *Proceedings of the Second ACM International Workshop on Multimedia Databases (ACM -MMDB 2004)*, Washington D.C., USA, pp. 75-84, November 8-13, 2004.
  37. "Accessing Documents via Audio: An Extensible Transcoder for HTML to VoiceXML Conversion", Narayan Annamalai, Gopal Gupta and B. Prabhakaran, *Proceedings of 9th International Conference on Computers Helping People with Special Needs (ICCHP 2004)*, (Also in *Lecture Notes in Computer Science LNCS 3118*), pp. 339–346, 2004.
  38. "Segmentation and Recognition of Multi-Attribute Motion Sequences", Chuanjun Li, Peng Zhai, S. Q. Zheng and B. Prabhakaran, *Proceedings of the ACM Multimedia Conference (ACM Multimedia 2004)*, New York, NY USA, pp. 836-843, October 10-16, 2004.
  39. "End-to-end Framework for QoS Guarantee in Heterogeneous Wired-cum-Wireless Networks", Ming Li, H. Zhu, S. Sathyamurthy, I. Chlamtac, and B. Prabhakaran, *Proceedings of the First International Conference on Quality of Service in Heterogeneous Wired/Wireless Networks (QShine'04)*, pp. 140-147, Dallas, Oct. 18-20, 2004.
  40. "Smart Decision Module for Streaming 3D Meshes Over Lossy Networks", H. Li and B. Prabhakaran, *Proceedings of the Tenth International Conference on Distributed Multimedia Systems (DMS 2004)*, San Jose, pp. 275-278, September 2004.
  41. "Real-time Classification of Multivariate Motion Data Using Support Vector Machines (SVM)", Chuanjun Li, Punit R. Kulkarni, Li Liu, B. Prabhakaran and Latifur Khan, *Proceedings of the Fifth International Workshop on Multimedia Data Mining (MDM/KDD 2004)*, Seattle, WA, USA, pp. 1-7, August 24-30, 2004.
  42. "A Dynamic Priority Re-allocation scheme for Quality of Service in IEEE 802.11e WLANs", Ming Li and B. Prabhakaran, *Proceedings of Multimedia Computing and Networking (MMCN 2004)*, Santa Clara, January 2004.
  43. "Mobile Tracking and Resource Reservation Scheme for Cellular Networks" Subbiah Shenbagaraman, S. Venkatesan, B. Prabhakaran, IEEE Semiannual Vehicular technology Conference ,Orlando, FL, October 2003. (CD-ROM Proceedings, no page numbers).
  44. "On Flow Reservation and Admission Control for Distributed Scheduling Strategies in IEEE802.11 Wireless LAN", Ming Li, B. Prabhakaran, and S. Satyamurthy, *Proceedings of the Sixth ACM International Workshop on Modeling Analysis and Simulation of Wireless and Mobile Systems (MSWiM 2003)*, held along with ACM MobiComm'03, pp. 108-115, San Diego, CA, September 2003.
  45. "Interactive Visual Method for Motion and Model Reuse", Akanksha, Z. Huang, B. Prabhakaran, and Ruiz, Jr. C. R., *Proceedings of Graphite 2003*, David Arnold and Geoff Wyvill (eds.), A Publication of ACM SIGGRAPH, pp. 29-36, color plates, 293. Melbourne, Australia, 2003.
  46. "A Framework For Reuse From Animation Multi-Databases", N. Chokkareddy, Z. Huang, B. Prabhakaran, and M. Vattikuti, *Proceedings of Multimedia Modeling*

- Conference (MMM 2003), Chin-Hui Lee and Timothy K. Shih (eds), Tamkang University, Taiwan, January, 2003, pp. 343-364.
47. “*Programmable Web Environment for Multimedia Applications*”, J. Jakilinki and B. Prabhakaran, Proceedings of IEEE Workshop on Multimedia Signal Processing (MMSP'02), US Virgin Islands, December 2002.
  48. “*Flexible Strategies for Disk Scheduling in Multimedia Presentation Servers*”, S. Emilda, L. Jacob, O. Daescu, and B. Prabhakaran, Proceedings of IEEE Workshop on Multimedia Signal Processing (MMSP'02), US Virgin Islands, December 2002.
  49. “*MAC Protocol Enhancements and A Distributed Scheduler for QoS Guarantees over the IEEE 802.11 Wireless LANs*”, L. Jacob, Q. Qiu, R. R. Pillai, and B. Prabhakaran, Proceedings of the 56th IEEE Vehicular Technology Conference (VTC'2002), Vancouver, Canada, pp 2410 -2413, September 2002.
  50. “*Mobile Tracking Using Forward Link in Cellular Networks*”, S. Shenbagaraman, S. Venkatesan, and B. Prabhakaran, Proceedings of Emerging Telecommunications Technologies Symposium, Richardson, September 2002. Also available as Technical Report UTD-CS-09-02, Department of Computer Science, University of Texas at Dallas, Richardson, TX 75083-0688, June 2002.
  51. “*Flexible Disk Scheduling for Multimedia Presentation Servers*”, S. Emilda, L. Jacob, O. Daescu, and B. Prabhakaran, 10th IEEE International Conference on Networks 2002 (ICON 2002), pp. 151 -155, Singapore, 2002.
  52. “*MAC Protocol Enhancements for QoS Guarantee and Fairness over the IEEE 802.11 Wireless LANs*”, Q.Qiang, L. Jacob, R. Pillai, and B. Prabhakaran, Proceedings of 11th IEEE International Conference on Computer Communications and Networks (IC3N02), pp. 628-633, Miami, Florida, October 2002.
  53. “*A Scalable Web Hosting Framework*”, B. Prabhakaran, Yuguang Tu, and Yin Wu, ISCA 14th International Conference on Parallel and Distributed Computing Systems Richardson, Texas, USA, August 8-10, 2001
  54. “*Reusing Motions and Models in Animation*”, Akanksha, Z Huang, B Prabhakaran, C R Ruiz, Jr., Proceedings of Eurographics MM 2001, Springer-Verlag/Wien, ISBN 3-211-83769-8, pp. 21-32. Also appears in J A Jorge, N M Correia, H Jones and M B Kamegai (eds.) Multimedia 2001, Springer-Verlag/Wien, ISBN 3-211-83769-8. pp. 21-32, 2002.
  55. “*An On-line Repository for Embedded Software*”, I-Ling Yen, Latifur Khan, B. Prabhakaran, Farokh B. Bastani, and John Linn, the Thirteenth Annual International Conference on Tools with Artificial Intelligence (ICTAI-2001), Richardson, TX, 2001.
  56. “*Reusing Animations in Databases for Multimedia Presentations*”, B. Prabhakaran, Binjia Jiao, Conrado R. Ruiz, Jr. and Zhiyong Huang, Asian Computing Conference 2000, Malaysia.
  57. “*A Forward Error Recovery Technique For Real-time MPEG-2 Video Transport and its Performance over Wireless IEEE 802.11 LAN*”, R. Pillai, B. Prabhakaran, and Q. Qiang, Proceedings of IEEE ICCCN 2000, Las Vegas, October 2000.
  58. “*Protocols for Collaborative Multimedia Presentations*”, E. Hwang and B. Prabhakaran, IEEE International Conference on Multimedia and Expo (ICME 2000), New York, July 2000.
  59. “*Scalable Video Delivery on the Web*”, B. Prabhakaran, Yuguang Tu, and Yin Wu, Network and Operating System Support for Digital Audio and Video (NOSSDAV 2000),

- Chapel Hill, USA, June 2000.
60. “*Merging Retrieval Requests for Multimedia Storage Server*”, B. Prabhakaran and E. Hwang, First International Workshop on Intelligent Multimedia Computing and Networking (IMMCN' 2000), New Jersey, USA, March 2000.
  61. “*Scheduling Multimedia Information Delivery Over Unicast Wireless Channels*”, B. Prabhakaran, Proceedings of 3rd IEEE Symposium on Application-Specific Systems and Software Engineering and Technology (ASSET 2000), Richardson, Texas, March 2000.
  62. “*Application-Layer Broker For Scalable Internet Services With Resource Reservation*”, P. Bai, B. Prabhakaran, and A. Srinivasan, Proceedings of ACM Multimedia'99, Orlando, 1999.
  63. “*A Forward Error Recovery Technique For MPEG-II Video Transport*”, R. Pillai, B. Prabhakaran, and Q. Qiang, Proceedings of ACM Multimedia'99, Orlando, 1999.
  64. “*Resource Negotiation for Collaborative Multimedia Presentations*”, B. Prabhakaran, IEEE Conference on Multimedia Computing Systems (ICMCS'99), Florence, Italy, June 1999.
  65. “*Distributed Video Presentations*”, E. Hwang, B. Prabhakaran, and V.S. Subrahmanian, Proceedings of International Conference on Data Engineering (ICDE'98), Orlando, February 1998.
  66. “*Scheduling Responses From Video Databases*”, E. Hwang, B. Prabhakaran, and V.S. Subrahmanian, Proceedings of Third International Workshop on Multimedia Information Systems, Lake Como, Italy, September 1997.
  67. “*CHIMP: A Framework for Supporting Multimedia Document Authoring and Presentation*”, K.S. Candan, B. Prabhakaran and V.S. Subrahmanian, Proceedings of ACM Multimedia '96 Conference, Boston, November 1996.
  68. “*CHIMP: A Framework For Distributed Multimedia Documents*”, K.S. Candan, B. Prabhakaran, and V.S. Subrahmanian, Proceedings of Second International Workshop on Multimedia Information Systems, West Point, New York, USA, September 1996.
  69. “*Quality of Service Considerations For Distributed, Orchestrated Multimedia Presentation*”, S.V. Raghavan, B. Prabhakaran and Satish K. Tripathi, Proceedings of High Performance Networking 94 (HPN'94), Paris, France, July 1994, pp. 217-238.
  70. “*Synchronization Models For Multimedia Presentation With User Participation*”, B. Prabhakaran and S.V. Raghavan, Proceedings of ACM Multimedia'93, Anaheim, California, August 1993, pp. 156-164.
  71. “*Formal Specification of Fault Management Systems Using O-ESTELLE*”, B. Prabhakaran and S.V. Raghavan, Proceedings of International Conference on Communication Systems (ICCS), Singapore, November 1992.
  72. “*Object Oriented Extensions to ESTELLE*”, B. Prabhakaran and S.V. Raghavan, Proceedings of the Tenth International Conference in Computer Communication, ICC-90, pp. 750-757, November 1990.
  73. “*Design and Implementation of Distributed Information Management System in OSI Environment*”, M.K. Suresh, B. Prabhakaran and S.V. Raghavan, Proceedings of International Conference on Communication Systems (ICCS), Singapore, November 1990.
  74. “*EEPP: E-Estelle Pre-Processor*”, B. Prabhakaran and S.V. Raghavan, Proceedings of International Conference on Communication Systems (ICCS), Singapore, November 1990.

75. “Implementation of Distributed Information Management System over TCP/IP”, S.V. Raghavan, M.K. Suresh and B. Prabhakaran, Proceedings of Intl. Conference on Management of Data (COMAD'89) held at Hyderabad, November 1989.

## II. Invited Talks

1. Keynote Speaker, “Enriching User Experience with Intuitive Interactions and Immersive Environments”, Workshop on Ambient Media Computing, held along with ACM Multimedia 2009, Beijing, October 23, 2009.
2. Invited Speaker and Participant, ACM SIGMM (Special Interest Group on Multimedia) Business Meeting, October 21, 2009.
3. Tutorial Speaker, “Multimedia Aspects in Pervasive Health Care”, ACM Multimedia, October 20, 2009.
4. Keynote Speaker, “Sensing Human Interaction”, IASTED Internet and Multimedia Systems and Applications, August 17-19, 2009, Honolulu, Hawaii.
5. Invited Speaker, “Classifying Human Performance”, Defense Academy for Credibility Assessment, Fort Jackson, SC, February 26, 2009.
6. Tutorial Speaker, “Storage, Retrieval, and Communication of Body Sensor Network Data”, ACM Multimedia, October 2008.
7. Invited Speaker (“SIGMM Online”) and Participant, ACM SIGMM Retreat October 26-27, 2008.
8. Invited Speaker (“SIGMM online”) ACM SIGMM Business Meeting, October 2008.
9. Invited Speaker (“Body Sensor Networks”) in Anna University (MEPCO, Sivakasi Campus), SASTRA University, Madurai-Kamaraj University, July 2008.
10. Invited Speaker and Participant, Hot Topics in Multimedia Research, ACM Multimedia Technical Program Committee Workshop, June 21, Darmstadt, Germany.
11. Invited Speaker (“Context Assistance in Media Interpretations”), and Participant, Dagstuhl Seminar on *Contextual and Social Aspects of Multimedia*, Dagstuhl Castle, Germany, June 2008.
12. Invited Speaker, “Portable Biomechanical Monitoring Systems: Science, Technology and Potential Rehabilitation Applications”, Physical Medicine & Rehabilitation Grand Rounds, University of Texas Southwestern Medical Center, June 6, 2008.
13. Invited Speaker, “Analyzing Human Performance Data Streams”, UTD-Keimyung University, South Korea Conference, Dallas, TX, June 12 2008.
14. Invited Speaker, “Working with Multiple, Multidimensional Human Performance Data Streams”, First bigD\* Regional Symposium on Data and Information Management, University of Texas at Arlington, April 19, 2008.
11. Invited Speaker, “Streaming 3D Databases and Authentication”, Navigation Technologies (NavTeq), February 11, 2008.
12. Speaker, School of Engineering and Computer Science Scholars Day, University of Texas at Dallas, March 17, 2007.
13. Speaker, AVID Program, Franford Middle School, Plano ISD, March 30, 2007.
14. Invited Speaker, Department of Computer Science, University of Texas at Arlington.
15. Panel Member, US Army Research Office (ARO) Proposals Review.
16. Panel Member, NSF CISE Panel.
17. Panelist & Speaker, Pravasi Bharatiya Divas 2008, January 7-9, 2008, New Delhi.
18. Invited speaker (“Research in 3D Motion Capture Data”), Gaming Conference, UT Dallas, January 19, 2007.

19. Invited participant and speaker, Dagstuhl Seminar on *Future Directions in Multimedia Research*, Dagstuhl Castle, Germany, March 2005.
20. Tutorial speaker in ACM Multimedia Conferences:
  - (a) ACM Multimedia, October 2008, Vancouver, Canada: *Storage, Retrieval, and Communication of Body Sensor Network Data*
  - (b) ACM Multimedia 2001 Conference, Ottawa, Canada: *Scalable Multimedia servers*.
  - (c) ACM Multimedia 2000 Conference, Los Angeles, November 2000: *Scalable Multimedia Servers*.
  - (d) ACM Multimedia'99 Conference, Orlando, November 1999: *Adaptive Multimedia Presentations*.
  - (e) ACM Multimedia'98 Conference, Bristol, UK, September 1998: *Managing Resources For Multimedia Presentations*.
21. Tutorial speaker, International Conference on Distributed Multimedia Systems (IDMS 2000), Enschede, Netherlands.
22. Invited participant and speaker, Dagstuhl Seminar on *Network Resource Management and Multimedia Synchronization*, Dagstuhl Castle, Germany, July, 1997.

### **III. External Funding**

1. "Secure Semantic Grids for Network Centric Operations. Sub-topic: Analyzing Terror Networks" Air Force Office of Scientific Research (AFOSR) Congressional Funding, Co-PI: B. Prabhakaran, PI: Bhavani Thuaraisingham, \$100,000, 2008-2011, (Other Co-PIs at UTD for other sub-topics: M. Kantarcioglu, L. Khan, I.L. Yen).
2. "GPS in-building penetration and Inertial Navigation Sensors", Texas Instruments, \$30,000, PI: B. Prabhakaran, 2008.
3. "ACM Special Interest Group on Multimedia (SIGMM) Online Multimedia Community", Association of Computing Machinery (ACM), \$30,240, PI: B. Prabhakaran., 2008-2009.
4. "MobileLab: Ericsson Project", Ericsson, Co-PI: B. Prabhakaran, PI: Dean Terry, \$100,000, 2008-2009.
5. "Assessment and Scoring of the Test of Strategic Learning (TOSL)", Center for Brain Health, UTD, \$25,000, PI: B. Prabhakaran, 2009.
6. Funded Research with Callier Center, UTD. Supports 1 RA for 1 year, PI: B. Prabhakaran, 2008-2009.
7. "Interactive Video System", Texas RCIC Funding Through 2cimple Interactive Inc., PI: B. Prabhakaran, \$30,000, 2009.
8. "Mobile Video Portal", PI: B. Prabhakaran, Consortium of 3 Industry Partners - Alliance Systems, Bay Talkitek, and Dialogic; \$104,115.
9. "MobileLab TI Project", Texas Instruments, Co-PI: B. Prabhakaran, PI: Dean Terry, \$130,000.
10. "REU - CAREER: Animation Databases", National Science Foundation (NSF)-Information & Intelligent Systems (IIS), PI: B. Prabhakaran, \$22,500, IIS-0237954, August 2007 – 2008.
11. "Culture and Motion Capture - an HTS Application (CMICHA)", BAE Systems/ US Army Space and Missile Defense Command (USASMD), PI: Thomas E. Linehan, Co-PIs: A. Blanchard & B. Prabhakaran, \$323,965, 1/5/2007 – 9/30/2007.

12. "REU - CAREER: Animation Databases", National Science Foundation (NSF)-Information & Intelligent Systems (IIS), IIS-0237954, PI: B. Prabhakaran, \$12,000, August 2006 - 2007.
13. "Storage, Retrieval, and Delivery of 3D Models and Multi-attribute Motion Data", PI: B. Prabhakaran, Army Research Office (ARO). Program: Discrete Mathematics and Computer Graphics, Mathematics Division. \$240,000, September 2005 - August 2008.
14. "REU/CAREER: Animation databases". PI: B. Prabhakaran, NSF (National Science Foundation) NSF Research Experience for Undergraduates (REU) Supplemental Award, IIS (Information & Intelligent Systems) REU/CAREER Award, IIS-0237954, \$6,000, August 15, 2004- September 1, 2005.
15. "3D Watermarking", PI: B. Prabhakaran, AT&T Foundation, \$33,333, December 2004 - June 2006.
16. PI, "*CAREER: Animation Databases*", US National Science Foundation(NSF) CAREER Grant, IIS-0237954, \$400,000, 2003-2008.
17. International Collaboration Partner, " Study on the Platform for QoS guaranteed Traffic Engineering and Multimedia Service under Next Generation Wired/Wireless Integrated Network Environment", Korea IT Industry Promotion Agency, 2003/8/1 - 2007/7/31, \$5.5 million (multi- party project with several universities).
18. Co-PI, "TL 9000 Registration Repository System (RRS) for QuEST Forum", Quality Excellence for Suppliers of Telecommunications (QuEST) Forum, (approximately) \$1 million, 2002-present. PI: D. Harris.
19. Investigator, Clark Foundation grant for Scheduling delivery of multimedia information. Investigators: B. Prabhakaran and R.N. Uma. Grant amount \$48,000, 2002.
20. Funded research with Texas Instruments, through the Embedded Software Center: Software component repository, 2001-2002.
21. Funded research with Alcatel USA; funded through the Embedded Software Center: Web-server load balancing. Supported a Research Assistant for 1 year, 2002.

#### **UT Dallas Internal Seed Grants:**

1. "School of Engineering Service Award for Computer Science Department", B. Prabhakaran, \$25,000, 2007-2008.
2. "Haptics and Virtual Reality Laboratory", B. Prabhakaran, K. Zhang, X. Guo, and D.T Huynh, Project Emmit Grant, \$500,000, November 2007.
3. "ACM Multimedia and Security 2007 Workshop Seed Grant", B. Prabhakaran, Project Emmit Grant, \$4000, September 2007.
4. "Archiving 3D Motions", PI: B. Prabhakaran, Project Emmit grant, \$30,000, December 2006.
5. "NeTS-ProWIN: Interference Aware Adhoc Networks", PI: B. Prabhakaran, Project Emmit grant, \$75,000, March 2005 - August 2006.
6. "Supplemental Funding for MoCap Lab", PI: B. Prabhakaran, Co-PI: Mihai Nadin, Project Emmit grant, \$22,000, July 2005.
7. "Motion Capture and Virtual Reality Laboratory", PI: B. Prabhakaran, Co-PI: Thomas E. Linehan, Project Emmit grant, \$300,000, August 2004.

#### **Grants in Other Appointments:**

8. Principal Investigator, Academic Research Grant RP 3981669, on Multimedia

documents-on-demand servers, National University of Singapore, S\$122,000, July 1998-2000.

9. PI-in-charge for the Project on Education and Research in Computer Networking (ERNET), for brief periods. Sponsors: Department of Electronics (DoE, Govt. of India) and the United Nations Development Program (UNDP).
10. PI-in-charge for research based consultancy on distributed databases for the Department of Telecommunications (DoT, Govt. of India), for brief periods.

## Teaching

### I. Students Supervised

#### A. Graduated PhD Students:

1. Gaurav N. Pradhan, ("On Analyzing Multiple, Physiological Sensor Databases" – placed as post-doc at the Arizona State University), 2008.
2. Yohan Chin ("Knowledge Analysis & Application to Multimedia Content Recognition Problems" – Data mining Research, MySpace.com, FoxTV)
3. Junqiang Zhou ("Guarding Algorithm and Robust Video Surveillance" – Software Design Engineer, ASML Inc.,). Jointly supervised with Prof Simeon Ntafos.
4. Agarwal, Parag ("3D Content Protection" - FairWarning, Inc. – a start-up on medical security software), 2007.
5. Li, Chuanjun ("Efficient 3D Motion Pattern Retrieval in Large Motion Capture Databases"). **Best PhD Dissertation Award for Year 2006.** (Jointly supervised with Prof SQ Zheng). Currently: Post-doc at Brown University, Supervisor: Prof Andy van Dam.
6. Li, Hui ("Streaming 3D Progressive Meshes over Lossy Networks"). Currently: Research Engineer at Ask.com.
7. Li, Ming ("Interference Aware QoS Strategies In IEEE 802.11 Wireless Networks"). **Best TA Award for Year 2006.** Currently: Assistant Professor, California State University, Fresno.

#### B. Current Doctoral Advisement:

1. Ziying Tang: *Streaming Haptic Data and Deformable Models* (Jointly supervised with Dr Xiaohu Guo)
2. Mahesh Babu Mariappan: *Ubiquitous Health Care*
3. Duk-Jin Kim: *Classifying Human Performance Data with Missing or Imprecise Components.*
4. Myunghoon Suk: *Multi-modal Approaches to Video Activity Recognition*
5. Yang Liu: *Spectral Approaches for Watermarking of Manifold Surfaces* (Jointly supervised with Dr Xiaohu Guo)
6. Arvind Balasubramanian: *Multi-modal Content Analysis.*
7. Suraj Raghuraman: *Multi-modal Human Interaction Analysis.*

**C. Current Masters Advisement:** Manoj Garg, Sancho Sebastine, Ashok Ramdas, and Shantanu Joshi..

#### **D. Completed MS Dissertations**

1. Amruthraj Belaldavar, “*American Sign Language Generator*”, 2008.
2. Pawar, Manoj, “*Content Based Querying and Searching for 3D Human Motions*”, 2007.
3. Park, Gyetae, “*Novel Multi-channel Assignment of Wireless Mesh Networks*”, 2007.
4. Agrawal, Sameer, “*Error Concealment Scheme for Loss Tolerant 3D Progressive Meshes*”, 2006.
5. Naik, Sagar S., “*3D Shape Retrieval*”, 2006.
6. Prakash, Arun, “*Visuaization of Animation Databases*”, 2006.
7. Ramaswamy, Vivek Shankar, “*Demand-Driven Retrieval Schedules for Progressive Transmission of 3D Animations*”, 2006.
8. Jain, Anshuman, “*Adaptive Packet Bursting Scheme for Handling QoS in Multi-rate Multi-hop AdHoc networks*”, 2005.
9. Kulkarni, Punit R., “*An Efficient Pattern Isolation and Recognition System for Multi-Attribute Streaming Data*”, 2005.
10. Lalwani, Ashok J., “*Interference-aware Routing in Wireless Ad Hoc Networks*”, 2005.
11. Pradhan, Gaurav N., “*Indexing and Compression of Multi-Attribute Variable Length Multi-Dimensional Motion Data*”, 2005.
12. Rajagopalan, Srinivas, “*Reduction of Search Space for Collision Detection in Animation Authoring Environments*”, 2005.
13. Ramesh, Shwetha, “*Interference-Aware Topology Control in Wireless Ad- Hoc Networks*”
14. Shah, Parinkumar D., “*View Dependent Partition Based 3D Model Streaming*”, 2005.
15. Shankar, Venkatesh, “*Providing QoS Support in Multi-Hop Ad Hoc Networks*”, 2005.
16. Zhai, Peng, “*Animation Data Translation Based on Schema Matching*”, 2005.
17. Krishna Rangarajan, “*3D Modeling*”, 2004.
18. Phani S Kotharu, “*Partial Fuzzy Query Resolution for Animation Authoring*”, 2004.
19. Sukumar Ramraj, “*Combinatorial Scheduling Algorithms To Sequence Information Delivery*”, 2003.
20. Satish Sathyamurthy, “*End-to-End QoS Guarantee in Heterogeneous Wired-Cum-Wireless Networks*”, 2003.
21. Nutan Chokka Reddy, “*3D Model Matching*”, 2003.
22. Mythreyi Vattikuti, “*XML-Based Toolkit for Reusing Multi-format Animations*”, 2003.
23. Deepa S. Shankar, “*Development of Collaborative Framework Enabling Content Adaptation on Internet Data*”, 2003.
24. Veerdhawal Pande: “*Dynamic Content Generation Using Collaborative Caching*”, 2003.
25. Deeptichand Parvathaveni (Jointly supervised with Dr R.N. Uma), “*Placement of Replicated Continuous Media Objects*”, 2003.
26. Narayanan Annamalai, (Jointly supervised with Dr Gopal Gupta), “*An Extensible Transcoder for HTML to VoiceXML Conversion*”, 2002.
27. J. Jagannatha Rao, “*Configurable Framework for Collaborative Applications Management*”, 2002.
28. Subbiah Shenbagaraman (Jointly supervised with Dr S. Venkatesan), “*Tracking Mobile Devices in Cellular Networks using Forward Link*”, 2002.
29. Tu Yuguang (National University of Singapore): “*Object-level Scalable Web Servers*”, 2000.

## II. CLASSROOM TEACHING

1. 2008 Fall, Advanced Operating Systems
2. 2008 Spring, Multimedia Systems
3. 2008 Spring, Game Programming
4. 2007 Fall, Advanced Operating Systems
5. 2007 Spring Computer Animation
6. 2007 Spring Advanced Operating Systems
7. 2006 Fall, Multimedia Database Management Systems
8. 2006 Spring, Advanced Operating Systems
9. 2006 Spring, Discrete Mathematics II
10. 2005 Fall, Recent Advances in Multimedia Database Management Systems
11. 2005 Spring, Advanced Operating Systems
12. 2005 Spring, Discrete Mathematics II
13. 2004 Fall, Advanced Operating Systems
14. 2004 Spring, Advanced Operating Systems
15. 2003, Spring, Advanced Operating Systems
16. 2002, Fall, Advanced Operating Systems
17. 2002, Spring, Advanced Operating Systems
18. 2001, Fall, Advanced Operating Systems
19. 2001, Spring, Programming in Java

### Teaching at Other Universities

1. 1998, Fall - 2000 Spring: Computer Networks, National University of Singapore.
2. 1998, Spring, Hypermedia Information Systems, National University of Singapore.
3. 1997, Spring, Telecommunication Protocol Design, University of Maryland, College Park, USA.
4. 1994, Spring - Fall, Computer Networks, Indian Institute of Technology, Chennai (formerly, Madras), India.
5. 1993, Fall, Programming & Data Structures, Indian Institute of Technology, Chennai, India.

## Services

### I. Professional Services

#### A. Journal Related Services:

1. Editor-in-chief, ACM SIGMM Online Magazine.
2. Member, Editorial Board, Multimedia Systems Journal, Springer. (
3. Member, Editorial Board, Journal of Multimedia, Academy Publishers.
4. Member, Editorial Board, International Journal of Multimedia Data Engineering and Management, Information Resources Management Association (IRMA).
5. Member of the Editorial Board of the Encyclopedia of Multimedia, Springer.
6. Member of the editorial board for the Journal of Multimedia Tools and Applications, Springer Publishers, Boston, MA, USA, 1995 - present.
7. Member, Editorial Board, Advances in Multimedia, Hindawi Publishers
8. Guest-editor, special issue on *Multimedia Semantics*, Journal of Signal Processing Systems, Springer, scheduled early 2010.
9. Guest-editor, special issue on *Multimedia Authoring & Presentation Techniques*, for

- ACM Multimedia Systems journal, May 2000.
10. Guest-editor, special issue on *Techniques for multimedia Presentation*, for the Journal of Multimedia Tools and Applications, November 2000.
  11. Guest-editor, special issue on *Mobile Computing Environments for Multimedia Systems*, Journal of Multimedia Tools and Applications, July 1999.
  12. Reviewer, National Research Foundation, Singapore, 2008.
  13. Reviewer, ACM Transactions on Multimedia Computing, Communications and Applications (TOMCCAP), 2008.
  14. Reviewer, Journal of Systems Software, 2008.
  15. Reviewer, IEEE Transactions on Digital Forensics and Security, 2008.
  16. Reviewer, IEEE Transactions on Multimedia, 2008.
  17. Reviewer, Knowledge and Information Systems, 2008.
  18. Reviewer, International Journal on Computer Vision, 2008.
  19. Reviewer, Journal of Information and Software Technology, 2008.
  20. Reviewer, Journal of Electronic Imaging (JEI), 2008.
  21. Reviewer, Journal of Visual Languages & Computing, 2008.
  22. Reviewer, ACM Transactions on Multimedia Computing, Communications and Applications (TOMCCAP), 2007.
  23. Reviewer, IEEE Transactions on Digital Forensics and Security, 2007.
  24. Reviewer, IEEE Transactions on Multimedia, 2007.
  25. Reviewer, IEEE Journal on Selected Areas in Communication, 2007
  26. Reviewer, Machine Vision and Applications Journal, 2007.
  27. Reviewer, IEEE MultiMedia, 2007.
  28. Reviewer, International Journal of Network Management, 2007.
  29. Reviewer, IEEE Transactions on Computers, 2007
  30. Reviewer, Computer & Graphics Journal, 2007.
  31. Reviewer, IEEE Transactions on Digital Forensics and Security. 2006
  32. Reviewer, IEEE Journal on Selected Areas in Communication, 2006
  33. Reviewer, Machine Vision and Applications Journal, 2006
  34. Reviewer, IEEE MultiMedia, 2006
  35. Reviewer, International Journal of Network Management, 2006
  36. Reviewer, IEEE Transactions on Computers, 2006
  37. Reviewer, Very Large Databases (VLDB) Journal, 2005.
  38. Reviewer, ACM Transactions on Multimedia Computing, Communications, and Applications, 2005.
  39. Reviewer, ACM/Springer-Verlag Multimedia Systems, 2004.

#### **B. Review Panel Services:**

1. Panel Member, NSF CISE Panel, 2009.
2. Panel Member, NSF CISE Panel, 2008
3. External Reviewer, Tenure Review, University of Alabama in Huntsville
4. Panel Member, US Army Research Office (ARO) proposal review.
5. Panel Member, NSF CISE Panel, 2007.
6. Paneslist & Speaker, Pravasi Bharatiya Divas 2008, January 7-9, 2008, New Delhi.

7. Reviewer, US Army Research office (ARO) Proposals.
8. Member, NSF Review Panel, Information & Data Management (IDM) 2004.
9. Member, NSF Review Panel, March 2003.
10. Member, NSF Review Panel, February 2003.
11. Member, National Science Panel (NSF) Review Panel, December 2002.

**C. Conference Related Services:**

1. General Co-Chair, ACM Multimedia 2011.
2. General Chair, General Chair of IEEE-DSMSA 2009 Workshop (The IEEE International Workshop on Data Semantics for Multimedia Systems and Applications), hosted along with IEEE International Symposium on Multimedia (ISM) 2009.
3. General Co-Chair, Workshop on Next Generation Networks, WonGen'08, Bangalore, India.
4. General Co-Chair, Workshop on Multimedia Aspects in Pervasive Healthcare (MMPH'09), in conjunction with IEEE International Conference on Multimedia and Expo (ICME), 2009.
5. General Co-Chair, Workshop on Pervasive Computing Systems and Infrastructures (PCSI), April 2009.
6. Panel Chair, ISM2009 (IEEE International Symposium on Multimedia)
7. Panel Co-Chair, International Conference on Semantic Computing (ICSC) 2009.
8. Member, Program Committee, ACM Multimedia 2009.
9. Member, Program Committee, ACM Multimedia and Security (ACM MM&Sec) 2009.
10. Member, Program Committee, Pervasive Technologies Related to Assistive Environments (PETRA'09), June 2009.
11. Member, Program Committee, The First International Conference on Advances in Multimedia, IARIA, Colmar, France, July 2009.
12. Proceedings Chair, ACM Multimedia 2008, Vancouver, Canada.
13. Workshops Co-Chair for IEEE International Symposium on Multimedia (ISM'08), December 15-17, 2008, Berkeley, CA, USA
14. Publicity Co-Chair, PETRA'08.
15. Track Co-Chair, Multimedia Networking, INTERNATIONAL CONFERENCE ON COMPUTER COMMUNICATIONS AND NETWORKS (ICCCN) 2008.
16. Member, Program Committee, INTERNATIONAL CONFERENCE ON COMPUTER COMMUNICATIONS AND NETWORKS (ICCCN) 2008.
17. Session Chair, ACM Multimedia 2008, Vancouver, Canada.
18. Session Chair, ACM Multimedia Modeling Conference (MMM'08), Kyoto, Japan.
19. Member, Program Committee, ACM Multimedia 2008.
20. Member, Program Committee, ACM Multimedia and Security (ACM MM&Sec) 2008.
21. Member, Program Committee, 9th IEEE International Symposium on a World of Wireless, Mobile and Multimedia Networks 2008 (WoWMoM 08)
22. Member, Program Committee, International Workshop on Ambient Media Delivery and Interactive Television (AMDIT08).
23. Workshops Co-Chair for IEEE International Symposium on Multimedia (ISM'08), December 15-17, 2008, Berkeley, CA, USA.
24. Member, Program Committee, The Fourth IEEE International Workshop on Multimedia Information Processing and Retrieval (MIPR-2008), December 15-17, 2008, Berkeley,

CA, USA.

25. Member, Program Committee, Int conf on Communication, Convergence, and Broadband Networking, during July 15-17, 2008, Bangalore.
26. Member, Program Committee, UBICOMM 2008, the Second International Conference on Mobile Ubiquitous Computing, Systems, Services and Technologies, to be held in Valencia, Spain, on September 29 - October 4, 2008.
27. Reviewer, ACM BodyNets 2008
28. General Co-chair, ACM Multimedia Security Workshop, Dallas, September 20-21, 2007.
29. PC Member, ACM Multimedia 2007.
30. Program Vice co-chair of Image and Video Processing Track at 2007 IEEE International Symposium on Multimedia (ISM'07) which will be held in Taiwan on December 10-12, 2007.
31. Special Sessions Organizing Co-Chair, First IEEE International Conference on Semantic Computing (IEEE ICSC2007) September 2007, Irvine, CA.
32. Session Chair, ACM Multimedia 2007, Augsburg, Germany.
33. Session Chair, IEEE Broadnets 2007, Raleigh, NC.
34. Member, Program Committee, ACM Multimedia 2007.
35. Member, Program Committee, UBICOMM 2007, (The First International Conference on Mobile Ubiquitous Computing, Systems, Services, and Technologies).
36. Member, Program Committee, International Conference on Multimedia Systems & Applications (IMSA) 2007.
37. Member, Program Committee, IASTED International Conference on Wireless and Optical Communications (WOC 2007), Montreal, Canada from May 30-June 1, 2007.
38. Member, Program Committee, IEEE BroadNets 2007.
39. Member, Program Committee, International Conference on Multimedia Systems & Applications (IMSA) 2007.
40. Member, Program Committee, IASTED International Conference on Wireless and Optical Communications (WOC 2007), Montreal, Canada from May 30-June 1, 2007.
41. Member, Program Committee, International MultiMedia Modeling Conference (MMM) 2007
42. PC Member, ACM Multimedia 2004 Conference, November 2006.
43. PC Member, International Workshop on Multimedia and Web Design, 13 December 2004, Miami, Florida, USA.
44. PC Member, ACM Multimedia 2004 Conference Short Papers Track, November 2004.
45. PC Member, Symposium on Document Engineering, McLean, VA, November 2004.
46. Associate Chair, ACM Multimedia, Berkeley, CA, November 2003.
47. Co-organizer, Special Session on Multimedia Authoring and Presentation, IEEE International Conference on Multimedia & Expo, ICME 2003, Baltimore, MD, July 2003.
48. Member, Program Committee, ACM SIGWEB Symposium on Document Engineering, (SDE '01), McLean, VA, November 2002.
49. Member, Program Committee, 8th International Workshop on Multimedia Information Systems (MIS 2002).
50. Member, Program Committee, 15th International Conference on Computer Communication (ICCC 2002), August 2002.
51. Member, Program Committee, Internet and Multimedia Systems and Applications

- (IMSA) conferences, 2000, 2001, & 2002.
52. Member, Program Committee, Multimedia Computing and Networking 2002 (MMCN'02), San Jose, California, from January 21-25, 2002.
  53. Member, Program Committee, IEEE International Conference on Computer Communication and Networks (ICCCN 2001), Scottsdale, Arizona, October 2001.
  54. Member, Program Committee, ACM SIGWEB Symposium on Document Engineering, (SDE '01), Atlanta, Georgia, November 2001.
  55. Associate Chair: ACM Multimedia'99, Orlando, November 1999 and ACM Multimedia 2000, Los Angeles.
  56. Member, Program Committee, International Workshop on Multimedia Database Management Systems, August, 1999, New York State, USA.
  57. Member, Program Committee of the International Conference on Internet and Multimedia Systems, Applications (IMSA), Grand Bahamas, October 1999.
  58. Member, Program Committee of the Second IASTED/ISMM International Conference on Distributed Multimedia Systems and Applications, Stanford, CA, USA, August 1995.
  59. Member, Program Committee, International Workshop on Multimedia Database Management Systems, August 5-7, 1998, Fairborn, OH, USA.
  60. Tutorial Chair, Singapore International Conference on Networking (SICON'98), Singapore, July 1998.

## **II. Administrative Services**

1. Vice-chair, Academic Calendar Committee
2. Internal Reviewer, School of Arts & Humanities Program Review, Spring 2008
3. Member, School-wide Academic Affairs Committee, 2007-2008.
4. Member, Faculty Senate, University of Texas at Dallas, 2006.
5. Chair, Graduates Admissions Committee, Department of Computer Science, University of Texas at Dallas, November 2004 - present.
6. Member, Graduates Admissions Committee, Department of Computer Science, University of Texas at Dallas, November 2001 - present.
7. Member, Teaching Assistants Committee, Department of Computer Science, University of Texas at Dallas, December 2003 - present.
8. Member, Under-graduate Program Committee, Telecom Engineering Program, University of Texas at Dallas.
9. Member, Outreach Committee, Computer Engineering Program, University of Texas at Dallas.
10. Member, Supervisory Committee of several PhD students.