

## PRADEEP K. ATREY

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College of Engineering and Applied Sciences  
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### CURRENT ACADEMIC AFFILIATIONS

Associate Professor, Department of Computer Science, College of Engineering and Applied Sciences,  
**University at Albany, State University of New York**  
Affiliated Faculty, College of Emergency Preparedness, Homeland Security and Cyber Security,  
**University at Albany, State University of New York**  
Adjunct Professor, School of Electrical Engineering and Computer Science, **University of Ottawa**

### EDUCATION

Ph.D. (Computer Science): School of Computing, National University of Singapore, Republic of Singapore (2002-06); Thesis adviser: Prof. Mohan Kankanhalli  
Master of Science (Software Systems): Birla Institute of Technology and Sciences, Pilani, India (1998-99)  
Bachelor of Technology (Computer Science and Engineering): Harcourt Butler Technological Institute, Kanpur, India (1987-91)

### RESEARCH INTERESTS AND LAB

*Research Lab:* Co-Director of **Albany Lab for Privacy and Security** (ALPS: <http://www.cs.albany.edu/ALPS/>).

My current research focus is on issues related to **security and privacy of i) people and ii) people's data**, in general. In particular, I am interested in the following areas:

- *Security and Privacy of People*  
**Multimedia Surveillance:** suspicious event detection for public safety; privacy protection in video surveillance systems
- *Security and Privacy of People's Data*  
**Secure Computations:** encrypted domain multimedia data, cleaning editing, merging, processing and deduplication in cloud-based surveillance, social media and medical imaging applications  
**Social Media and Networks:** fake news identification, privacy-aware cloud-based social networking; cyber bullying detection and personality prediction using social media data  
**Cyber Security:** web phishing detection and prevention, browser security  
**Multimedia Security and Forensics:** volatile memory forensics; digital evidence authentication; protection of multimedia data (text documents, image and video) using secret sharing.

### APPOINTMENTS HELD

Feb. 2016-present	<b>Associate Professor</b>	Computer Science Department, University at Albany, State University of New York, USA
Sep. 2014-Feb. 2016	<b>Associate Professor (on leave) &amp; Assistant Professor</b>	Applied Computer Science Department, University of Winnipeg, Canada Computer Science Department, University at Albany, State University of New York, USA
Jul. 2012-Aug. 2016	<b>Associate Professor</b>	Applied Computer Science Department, University of Winnipeg, Canada
Jul. 2008-Jun. 2012	<b>Assistant Professor</b>	Applied Computer Science Department, University of Winnipeg, Canada
Aug. 2006-Jun. 2008	<b>Postdoctoral Fellow</b>	Multimedia Communications Research Lab., University of Ottawa, Canada

Jul. 2002-Jul. 2006	<b>Research Scholar &amp; Teaching Assistant</b>	School of Computing, National University of Singapore, Singapore
Nov. 1998-Jul. 2002	<b>Lecturer</b>	Computer Engineering Department, Delhi Technological University (Formerly Delhi College of Engineering), India
Oct. 1992-Nov. 1998	<b>Lecturer</b>	Computer Science & Engineering Department, D.C.R. University of Science and Technology (Formerly C.R. State College of Engineering), Murthal, India
Jul. 1991-Oct. 1992	<b>Engineer (System Design)</b>	Avery India Limited, Faridabad, India

## AWARDS AND HONORS

2018	Outstanding Service Award for service at the 2017 IEEE SMC Conference
2017	Best Paper Award “Browsing: A new way of phishing using a malicious browser extension” at the IEEE Int. Conf. on Innovations in Power and Advanced Computing Technologies
2016	Two Papers Nominated for the ACM TOMM Nicholas Georganas Best Paper Award
2015	IEEE Comm. Soc. MMTC Best R-Letter Editor Award
2015	SIGMM Multimedia Rising Star
2015	ACM TOMM Associate Editor of the Year
2014	The Erica and Arnold Rogers Award for Excellence in Research and Scholarship
2013	University of Winnipeg Presidents Merit Award for Exceptional Performance
2013	IEEE ICME Outstanding Organizing Committee Member (as Publicity Chair)
2012	University of Winnipeg Presidents Merit Award for Exceptional Performance
2012	ETRI Journal Best Editor Award
2011	IEEE ICME Quality Reviewer
2011	Featured in the University of Winnipeg Research Booklet
2011	Featured in the University of Winnipeg Brochure “Introducing; The Richardson College for the Environment and Science Complex”, as one of 6 key scientists
2010	University of Winnipeg Presidents Merit Award for Exceptional Performance
2009	ETRI Journal Best Reviewer Award
2002-06	NUS Research Scholarship, National University of Singapore

## MEDIA COVERAGE

- [02/2018] **Experian**: I was quoted in an article “**Fighting Back Against Tax ID Fraud**” on experian.com, in which I talked about the importance of keeping different passwords for different accounts. (URL: <https://www.experian.com/blogs/ask-experian/fighting-back-against-tax-id-fraud>)
- [02/2018] **UAlbany News**: I was featured in UAlbany News “**Protect Yourself: February is Data Privacy Month, a Good Reminder to Check Your Online Security**” offering his advice on identity theft protection. (URL: <https://www.albany.edu/news/85177.php>)
- [08/2017] **BYU Radio**: I appeared on the Matt Townsend show of BYU Radio and talked about modern **ATM security**. (Interview URL: <http://bit.ly/2vqrzJG>)
- [06/2017] **The Conversation US**: ATMs turned 50 years old on June 27, 2017. On this occasion, I wrote an article titled “**How secure are today's ATMs? 5 questions answered**” for the Conversation US, in which I discussed security issues and concerns of modern ATMs. (URL: <https://theconversation.com/how-secure-are-todays-atms-5-questions-answered-79618>)
- [04/2017] **CSOonline**: Tech journalist John Brandon, quoted me in his article titled “**How to deal with the bot crisis on Twitter**” published on the CSO (URL: <https://www.csoonline.com/article/3188533/security/how-to-deal-with-the-bot-crisis-on-twitter.html>)
- [02/2017] **Fox News**: Fox News ran story quoting me on “How AI fights the war against fake news”. (URL: <http://www.foxnews.com/tech/2017/02/21/how-ai-fights-war-against-fake-news.html>)
- [06/2016] **Times Union**: I emphasized the importance of teaching computer science to children at early stage in an article titled “Class is key to cracking the code” published in Times Union. (URL: <https://www.timesunion.com/tuplus-business/article/Class-is-key-to-cracking-the-code-8319894.php>)

## RESEARCH FUNDING

### External Funding (\$588,873)

2009-15	Sole Principal Investigator (PI) - Natural Sciences and Engineering Research Council (NSERC) of Canada - Discovery Grant (Individual): \$135,000 ( <i>NSERC Discovery Grant (Individual) is considered Canadian equivalent of NSF CAREER Award</i> )
2009	Sole PI DFAIT, Canada (Canadian Commonwealth Exchange Program): \$10,000
2010	Sole PI DFAIT, Canada (Canadian Commonwealth Exchange Program): \$10,000
2012	Sole PI DFAIT, Canada (Canadian Commonwealth Exchange Program):\$10,000
2013	Sole PI DFAIT, Canada (Canadian Commonwealth Exchange Program):\$20,000
2011-13	Co-PI - Govt. of Saudi Arabia: 1.5 Million Saudi Riyal: \$400,000
2012-13	Shastri Indo-Canadian Institute Scholar Travel Grant: \$1,250
2013	IEEE ICME Travel Grant: \$1,623
2015	SIGMM Travel Grant: \$1,000

### Internal Funding (\$140,900)

2014-18	University at Albany, Start-up Research Grant: \$128,000
2008-14	University of Winnipeg (Multiple Grants): \$12,900

## PUBLICATIONS

**Journal articles: 39, Conference/workshop/symposium papers/posters: 76, Letters: 1, Book chapters: 5, Edited books: 3, Guest-editorials: 2.**

### Peer-Reviewed Journal Articles

- [J39] D. Puneeth, N. Joshi, P. K. Atrey and M. Kulkarni. Energy efficient and reliable data collection in wireless sensor networks. *Turkish Journal of Electrical Engineering and Computer Science*, 26:138-149 (2018).
- [J38] A. Yakubu, N. Maddage and P. K. Atrey. Securing speech noise reduction in outsourced environment. *ACM Transactions on Multimedia Computing, Communication and Applications*. Vol. 13, No. 4, Article 51, August (2017).
- [J37] P. Singh, B. Raman, N. Agarwal and P. K. Atrey. Secure cloud based image tampering detection and localization using POB number system. *ACM Transactions on Multimedia Computing, Communications and Applications*, Vol. 13, No. 3, Article 23, June (2017).
- [J36] G. Varshney, M. Mishra and P. K. Atrey. A survey and classification of web phishing detection schemes. *Wiley Security and Communication Networks J.*, DOI: 10.1002/sec.1674 (2016).
- [J35] G. Varshney, M. Mishra and P. K. Atrey. A phish detector using lightweight search features. *Elsevier Computers & Security J.*, Vol. 62, pp 213-228, September (2016).
- [J34] S. Bhardwaj, P. K. Atrey, M. K. Saini and A. El Saddik. Personality assessment using multiple online social networks. *Springer Int. J. Multimedia Tools and Applications*. Vol. 75, Issue 21, pp 1323713269 (2016).
- [J33] M. Mohanty, W.T. Ooi, and P. K. Atrey. Secret sharing approach for securing cloud-based pre-classification volume ray-casting. *Springer Int. J. Multimedia Tools and Applications*. Vol. 75, Issue 11, pp 62076235 (2016).
- [J32] H. Al Najjar, S. Alharthi and P. K. Atrey. Secure image sharing method over unsecured channels. *Springer Int. J. Multimedia Tools and Applications*. Vol. 75, Issue 4, pp 22492274 (2016).
- [J31] S. Bhadravati, P. K. Atrey and M. Khabbazian. Scalable secret sharing of compressed multimedia. *Elsevier Int. J. Information Security and Applications*, Vol. 23, pp 8-27 (2015).
- [J30] P. Natrajan, P. K. Atrey and M. S. Kankanhalli. Multi-camera coordination and control in surveillance systems: a survey. *ACM Trans. on Multimedia Computing, Communications and Applications*, Volume 11 Issue 4, Article No. 57 (2015).
- [J29] A. Lathey and P. K. Atrey. Image enhancement in encrypted domain over cloud. *ACM Trans. on Multimedia Computing, Communications and Applications*, Vol. 11, No. 3, Article 38 (2015).

- [J28] H. Agarwal, P. K. Atrey and B. Raman. Image watermarking in real oriented wavelet transform domain. *Springer Int. J. Multimedia Tools and Applications*, Vol. 74, Issue 23, pp 1088310921 (2015).
- [J27] M. Saini, P. K. Atrey and A. El Saddik. From smart camera to smarthub: embracing cloud for video surveillance. *Special issue on "Emerging Sensor-Cloud Technology for Pervasive Services and Application" at Hindawi Int. J. of Distributed Sensor Networks*, Vol. 2014, Article ID 757845, 10 pages (2014).
- [J26] G. Bhatnagar, A. Saha, Q. M. J. Wu and P. K. Atrey. Analysis and extension of multiresolution singular value decomposition. *Elsevier J. of Information Sciences*. Vol. 277, Pages 247-262 (2014).
- [J25] P. K. Atrey, S. Alharthi, M. A. Hossain, A. AlGhamdi and A. El Saddik. Collective control over sensitive video data using secret sharing. *Springer Int. J. of Multimedia Tools and Applications*, Vol. 73, Issue 3, pp 14591486 (2014)
- [J24] G. Bhatnagar, Q. M. J. Wu and P. K. Atrey. Robust logo watermarking using biometrics inspired key generation. *Elsevier J. of Expert Systems with Applications*, 41(10), pp. 4563-4578 (2014).
- [J23] D. T. Ahmed, M. A. Hossain, S. Shirmohamadi, A. Alghamdi, P. K. Atrey and A. El Saddik. Utility based decision support engine for camera view selection in multimedia surveillance systems. *Springer Int. J. Multimedia Tools and Applications*, Vol. 73, Issue 1, pp 219240 (2014).
- [J22] K. Amriki and P. K. Atrey. Bus surveillance: How many and where cameras should be placed. *Springer Int. J. Multimedia Tools and Applications*, Vol. 71, Issue 3, pp 10511085 (2014).
- [J21] M. Saini, P. K. Atrey, S. Mehrotra, and M S. Kankanhalli. W3-Privacy: Understanding what, when, and where inference channels in multi-camera surveillance video. *Springer Int. J. of Multimedia Tools and Applications*, 68(1):135-158 (2014).
- [J20] C. Bhatt, P. K. Atrey and M. S. Kankanhalli. A reward and punishment based approach for concept detection using adaptive ontology rules. *ACM Trans. on Multimedia Computing, Communications and Applications*, Vol. 9 Issue 2, Article No. 10 (2013).
- [J19] G. Bhatnagar, Q. M. J. Wu and P. K. Atrey. Secure randomized image watermarking based on singular value decomposition. *ACM Trans. on Multimedia Computing, Communications and Applications*, Vol. 10 Issue 1, Article No. 4 (2013).
- [J18] M. Saini, P. K. Atrey, S. Mehrotra, and M S. Kankanhalli. Privacy aware publication of surveillance video. *Inderscience Int. J. of Trust Management in Computing and Communications*. Vol. 1, No. 1, pp 23-50 (2013).
- [J17] R. Bisewski and P. K. Atrey. Modeling, simulation and analysis of a weaponry-equipped camera surveillance system. *Hypersciences Int. J. Modeling and Simulations of Systems*, Vol.3, Iss.1, pp 4-13, (2012).
- [J16] M. Saini, P. K. Atrey, S. Mehrotra, and M S. Kankanhalli. Adaptive transformation for robust privacy protection in video surveillance. *Hindawi Int. J. of Advances in Multimedia*, Vol. 2012, Article ID 639649 (2012).
- [J15] M. Saini, X. Wang, P. K. Atrey, and M S. Kankanhalli. Adaptive workload equalization in multi-camera surveillance systems. *IEEE Trans. on Multimedia*, 14(3):555-562 (2012).
- [J14] C. Bhatt, P. K. Atrey, and M S. Kankanhalli. Concept based near duplicate video clip detection for novelty re-ranking of web video search results. *Springer Multimedia Systems J.*, 18(4):337-358 (2012).
- [J13] P. K. Atrey, H. Ibrahim, M. A. Hossain, S. Ramanna and A. El Saddik. Determining trust in media-rich websites using semantic similarity. *Springer Int. J. of Multimedia Tools and Applications*, 60(1):69-96 (2012).
- [J12] P. K. Atrey, A. El Saddik and M. S. Kankanhalli. Effective Multimedia Surveillance Using a Human-Centric Approach. *Special Issue on "Hot Topics in Multimedia Research" at Springer Int. J. of Multimedia Tools and Applications*. 51(2):697-721 (2011).

- [J11] M. A. Hossain, P. K. Atrey and A. El Saddik. Modeling and assessing quality of information in multi-sensor multimedia monitoring systems. *ACM Trans. on Multimedia Computing, Communications and Applications*, Vol. 7 Issue 1 (2011).
- [J10] P. K. Atrey, M. A. Hossain, A. El Saddik and M. S. Kankanhalli. Multimodal fusion for multimedia analysis: A survey. *Springer Multimedia Systems J.*, 16(6):345-379 (2010).
- [J9] M. A. Hossain, J. Parra, P. K. Atrey and A. El Saddik. A framework for human-centered provisioning of ambient media services. *Springer Int. J. of Multimedia Tools and Applications*, 44(3):407-431 (2009).
- [J8] M. A. Hossain, P. K. Atrey and A. El Saddik. Learning multisensor confidence using a reward-and-punishment mechanism. *IEEE Trans. on Instrumentation and Measurement*, 58(5):1525-1534 (2009).
- [J7] P. K. Atrey and A. El Saddik. Confidence evolution in multimedia systems. *IEEE Trans. on Multimedia*, 10(7):1288-1298 (2008).
- [J6] M. A. Hossain, P. K. Atrey and A. El Saddik. Gain-based selection of ambient media services in pervasive computing environments. *Springer Int. J. of Mobile Networks and Applications*, 13(6): 599-613 (2008).
- [J5] P. K. Atrey, M. A. Hossain and A. El Saddik. Association-based dynamic computation of reputation in web services. *Inderscience Int. J. Web and Grid Services*, 4(2):169-188 (2008).
- [J4] V. K. Singh, P. K. Atrey and M. S. Kankanhalli. Coopetitive multi-camera surveillance using model predictive control. *Springer Int. J. of Machine Vision and Applications*, 19(5-6):375-393 (2008).
- [J3] P. K. Atrey, M. S. Kankanhalli and John B. Oommen. Goal-oriented optimal subset selection of correlated multimedia streams. *ACM Trans. on Multimedia Computing, Communications and Applications*, Vol. 3, Issue 1, Article 2 (2007).
- [J2] P. K. Atrey, W.-Q. Yan and M. S. Kankanhalli. A scalable signature scheme for video authentication. *Springer Int. J. of Multimedia Tools and Applications*, 34(1): 107-135 (2007).
- [J1] P. K. Atrey, M. S. Kankanhalli and R. Jain. Information assimilation framework for event detection in multimedia surveillance systems. *Springer/ACM Multimedia Systems J.*, 12(3): 239-253 (2006).

#### **Peer-Reviewed Conference/Workshop/Symposium Papers/Posters**

- [C76] S. Parikh and P. K. Atrey. Media-rich fake news detection: A survey. The 1st IEEE Workshop on Fake Multimedia (FakeMM'18) in conjunction with the 1st IEEE International Conference on Multimedia Information Processing and Retrieval (MIPR'2018), Miami, FL, USA, April 2018. (To appear)
- [C75] N. Sharma, P Singh and P. K. Atrey. SecureCMerge: Secure PDF merging over untrusted servers. The 1st IEEE International Conference on Multimedia Information Processing and Retrieval (MIPR'2018), Miami, FL, USA, April 2018. (To appear)
- [C74] V. Patil, P Singh, S. Parikh and P. K. Atrey. GeoSClean: Secure cleaning of GPS trajectory data using anomaly detection. The 1st IEEE International Conference on Multimedia Information Processing and Retrieval (MIPR'2018), Miami, FL, USA, April 2018. (To appear)
- [C73] A. Agarwala, P Singh and P. K. Atrey. Client side secure image deduplication using DICE protocol. The 1st IEEE International Conference on Multimedia Information Processing and Retrieval (MIPR'2018), Miami, FL, USA, April 2018. (To appear)
- [C72] G. Varshney, M. Misra and P. K. Atrey. Secure authentication using BLE smart devices. *The 11th IEEE International Conference on Anti-counterfeiting, Security, and Identification (ASID'17)*, Xiamen, China, October 2017.
- [C71] G. Varshney, M. Mishra and P. K. Atrey. Detecting spying and fraud browser extensions. *The 1st International Workshop on Multimedia Privacy and Security (MPS'17)* in conjunction with the *24th ACM Conference on Computer and Communication Security (CCS'17)*, Dallas, TX, USA, October 2017.

- [C70] V. Patil, S. Parikh, P. Singh and P. K. Atrey. GeoSecure: Towards secure outsourcing of GPS data over cloud. *The 3rd IEEE Workshop on Security and Privacy in the Cloud (SPC 2017)* in conjunction with the *IEEE Conference on Communications and Network Security (CNS 2017)*, Las Vegas, NV, USA, October 2017.
- [C69] P. Iyer, P. K. Atrey, G. Varshney and M. Mishra. Email spoofing detection using volatile memory forensics. *The 3rd IEEE Network and Cloud Forensics Workshop (NFW 2017)* in conjunction with the *IEEE Conference on Communications and Network Security (CNS 2017)*, Las Vegas, NV, USA, October 2017.
- [C68] A. Agarwala, P. Singh and P. K. Atrey. DICE: A dual integrity convergent encryption protocol for client side secure data deduplication. *The 2017 IEEE International Conference on Systems, Man, and Cybernetics (SMC'2017)*, Banff, Canada, October 2017.
- [C67] P. Singh, S. Arora, K. Williamson and P. K. Atrey. S3Email: A method for securing emails from service providers. *The 2017 IEEE International Conference on Systems, Man, and Cybernetics (SMC'2017)*, Banff, Canada, October 2017.
- [C66] G. Varshney, M. Mishra and P. K. Atrey. Browshing: A new way of phishing using a malicious browser extension. *IEEE Int. Conf. on Innovations in Power and Advanced Computing Technologies (i-PACT'17)*, Vellore, India, April 2017. [Received **Best Paper Award**]
- [C65] G. Varshney, M. Mishra and P. K. Atrey. Improving the Accuracy of Search Engine Based Anti-Phishing Solutions Using Lightweight Features. *The 11th Int. Conf. for Internet Technology and Secured Transactions (ICITST 2016)*, Barcelona, Spain, December 2016.
- [C64] S. Arora, G. Varshney, P. K. Atrey and M. Mishra. SecureCEdit: An approach for secure cloud-based document editing. *The 2nd IEEE Workshop on Security and Privacy in the Cloud (SPC 2016) in conjunction with IEEE Conf. on Communications and Network Security (CNS 2016)*, Philadelphia, PA, USA, October 2016.
- [C63] V. K. Singh, Q. Huang and P. K. Atrey. Cyberbullying detection using probabilistic socio-textual information fusion. *Int. Symp. on Foundations of Open Source Intelligence and Security Informatics (FOSINT-SI 2016) in conjunction with (ASONAM 2016)*, San Francisco, CA, USA, Aug. 2016.
- [C62] A. Yakubu, N. C. Maddage, and P. K. Atrey. Encrypted domain cloud-based speech noise reduction with comb filter. *The first IEEE Int. Workshop on "Privacy Issues in Multimedia" (PIM'16) in conjunction with IEEE Int. Conf. on Multimedia and Expo (ICME'16)*, Seattle, WA, USA, Jul. 2016.
- [C61] O.-A. Kristensen, M. Mohanty, and P. K. Atrey. Dont See Me, Just Edit Me: Towards Secure Cloud-based Video Editing. *The 11th Annual Symp. on Information Assurance in conjunction with The 19th New York State Cyber Security Conf. (ASIA'16)*, pp 74-78, Albany, NY, USA, Jun. 2016.
- [C60] H. Agarwal, B. Raman, P. K. Atrey and M. S. Kankanhalli. Analysis of comparators for binary watermarks. *The Int. Conf. on Computer Vision and Image Processing (CVIP'16)*, Roorkee, India, Feb. 2016.
- [C59] A. Tripathi, V. K. Singh, S. Hossain, P. K. Atrey and A. 'Sandy' Pentland. I know how to persuade you if I know your personality: The effect of personality on social persuasion in quantified-self scenarios. Poster at *2015 Social Media & Society Conf. (SMSociety'15)*, Toronto, Canada, Jul. 2015.
- [C58] A. Yakubu, N. C. Maddage, and P. K. Atrey. Secure audio reverberation over cloud. *The 10th Annual Symp. on Information Assurance in conjunction with The 18th New York State Cyber Security Conf. (ASIA'15)*, Albany, NY, USA, Jun. 2015.
- [C57] A. Tripathi, V. K. Singh, S. Hossain and P. K. Atrey. Assessing personality using demographic information from social media data. *The 2015 Social Media & Society Conf. (SMSociety'15)*, Toronto, Canada, Jul. 2015.
- [C56] A. Yakubu, N. C. Maddage and P. K. Atrey. Audio secret management scheme using Shamir's secret sharing. *The 21st Int. Conf. on Multimedia Modeling (MMM'15)*, Jan. 2015, Sydney, Australia.

- [C55] K. Kansal, M. Mohanty and P. K. Atrey. Scaling and cropping of wavelet-based compressed images in hidden domain. *The 21st Int. Conf. on Multimedia Modeling (MMM'15)*, Jan. 2015, Sydney, Australia.
- [C54] M. Mohanty, C. Gehrman and P. K. Atrey. Avoiding weak parameters in secret image sharing. *IEEE Int. Conf. on Visual Communications and Image Processing (VCIP'14)*, Dec. 2014, Valletta, Malta.
- [C53] Q. Huang, V. K. Singh and P. K. Atrey. Cyber bullying detection using social and textual features. *The 3rd ACM MM Workshop on Socially Aware Multimedia (IWSAM14)*, Nov. 2014, Orlando, FL, USA.
- [C52] M. Moski and P. K. Atrey. An intuitive touch screen interface for car remote control. *The 1st ACM MM Workshop on Emerging Multimedia Applications and Services for Smart Cities (EMASC14)*, Nov. 2014, Orlando, FL, USA.
- [C51] S. Bhardwaj, M. Saini, P. K. Atrey and A. El Saddik. Personalized ambient environments using multiple social networks. *The 2nd IEEE ICME Int. Workshop on Ambient Multimedia and Sensory Environment (AMUSE'14)*, Jul. 2014, Chengdu, China.
- [C50] M. Mohanty, W.-T. Ooi and P. K. Atrey. Secure cloud-based volume ray-casting. *IEEE Int. Conf. on Cloud Computing Technology and Services (CloudCom'13)*, Dec. 2013, Bristol, UK.
- [C49] K. Senevirathna and P. K. Atrey. A secure and privacy-aware cloud-based architecture for online social networks. *The 7th Multi-Disciplinary Int. Workshop on Artificial Intelligence (MIWAI'13)*, Dec. 2013, Krabi, Thailand.
- [C48] H. Agarwal, B. Raman and P. K. Atrey. Watermarking schemes to secure the face database and test images in a biometric system. *The IEEE Int. Conf. on Signal and Image Processing Applications (ICSIPA '13)*, Oct. 2013, Melaka, Malaysia.
- [C47] S. Bhadravati, M. Khabbazian and P. K. Atrey. On the semantic security of secret image sharing methods. *IEEE Int. Conf. on Semantic Computing (ICSC'13)*, Sep. 2013, Irvine, CA, USA.
- [C46] A. Lathey, P. K. Atrey and N. Joshi. Homomorphic low pass filtering on encrypted multimedia over cloud. *IEEE Int. Conf. on Semantic Computing (ICSC'13)*, Sep. 2013, Irvine, CA, USA.
- [C45] M. Mohanty, W.-T. Ooi and P. K. Atrey. Scale me, crop me, know me not: Supporting scaling and cropping in secret image sharing. *IEEE Int. Conf. on Multimedia and Expo (ICME'13)*, Jul. 2013, San Jose, CA, USA.
- [C44] M. Mohanty, P. K. Atrey and W.-T. Ooi. Secure cloud-based medical data visualization. *The ACM Int. Conf. on Multimedia (ACMMM'12)*, pp 1105-1108, Oct. 29-Nov. 2, 2012, Nara, Japan.
- [C43] T. Atrey, P. Gupta and P. K. Atrey. Unobtrusive map navigation using eye tracking. *The 25th Canadian Conf. on Electrical and Computer Engineering (CCECE'12)*, Apr. 29-May 2, 2012, Montreal, Canada.
- [C42] R. Bisewski and P. K. Atrey. Toward a remote-controlled weapon-equipped camera surveillance system. *IEEE Int. Symposium on Monitoring & Surveillance Research: Healthcare-Safety-Security*, pp 1087-1092, Nov. 2011, Boca Raton, FL, USA.
- [C41] P. K. Atrey. A secret sharing based privacy enforcement mechanism for untrusted social networking operators. *The 3rd ACM Int. Workshop on Multimedia in Forensics and Intelligence*, pp 13-18, Nov. 28 - Dec. 1, 2011, Scottsdale, AZ, USA.
- [C40] P. K. Atrey, K. Hildebrand and S. Ramanna. An efficient method for protection of text documents using secret sharing. *Int. Conf. on Frontiers of Computer Science*, Aug. 2011, Bangalore, India.
- [C39] M. Saini, P. K. Atrey, S. Mehrotra and M. S. Kankanhalli. Anonymous surveillance. *IEEE Int. Conf. on Multimedia and Expo Workshop on Advances in Automated Multimedia Surveillance for Public Safety*, Jul. 2011, Barcelona, Spain.

- [C38] K. Amriki and P. K. Atrey. Towards optimal placement of surveillance cameras in a bus. *IEEE Int. Conf. on Multimedia and Expo Workshop on Advances in Automated Multimedia Surveillance for Public Safety*, Jul. 2011, Barcelona, Spain.
- [C37] M. Saini, X. Wang, P. K. Atrey and M. S. Kankanhalli. Dynamic workload assignment in video surveillance systems. *IEEE Int. Conf. on Multimedia and Expo (ICME'11)*, Jul. 2011, Barcelona, Spain.
- [C36] S. Alharthi, P. K. Atrey and M. S. Kankanhalli. Secret video sharing. APSIPA Annual Summit and Conference, Dec. 2010, Singapore.
- [C35] S. Alharthi and P. K. Atrey. Further improvements on secret image sharing scheme. *ACM Multimedia Workshop on Multimedia in Forensics, Security and Intelligence*, pp 53-58, Oct. 2010, Firenze, Italy.
- [C34] M. Saini, P. K. Atrey, S. Emmanuel and M. S. Kankanhalli. Functionality delegation in distributed surveillance systems. *IEEE Int. Conf. on Advanced Video and Signal-Based Surveillance - Workshop on Multimedia Systems for Surveillance*, pp 72-79, Aug. 2010, Boston, MA, USA.
- [C33] S. Alharthi and P. K. Atrey. An improved scheme for secret image sharing. *IEEE ICME Workshop on Content Protection and Forensics*, pp 1661-1665, Jul. 2010, Singapore.
- [C32] M. Saini, P. K. Atrey, S. Mehrotra, S. Emmanuel and M. S. Kankanhalli. Privacy modeling for video data publication. *IEEE Int. Conf. on Multimedia and Expo*, pp 60-65, Jul. 2010, Singapore.
- [C31] B. Barake, P. K. Atrey, M. A. Hossain and A. El Saddik. Human-coordinated camera control for monitoring public spaces. *Int. Conf. on Information Sciences, Signal Processing and their Applications*, May 2010, Kuala Lumpur, Malaysia.
- [C30] S. Guest, P. K. Atrey and S. Emmanuel. PEER: An effective and efficient personal website organizer. *IEEE TENCON Conference*, pp 1-6, Nov. 2009, Singapore.
- [C29] P. K. Atrey. A hierarchical model for representation of events in multimedia observation systems. *ACM Int. Workshop on Events in Multimedia*, pp 57-64, Oct. 2009, Beijing, China.
- [C28] B. Barake, P. K. Atrey, J. Zhao and A. El Saddik. A user friendly mobile device interface to assist security officers in physical monitoring at public places. *ACM Int. Workshop on Ambient Media Computing: Part 1: Sensory Media Systems and Applications*, pp 29-36, Oct. 2009, Beijing, China.
- [C27] P. Zhang, S. Emmanuel, P. K. Atrey and M. S. Kankanhalli. Spatio-temporal latent semantic cues for moving people tracking. *The 34th IEEE Int. Conf. on Acoustics, Speech, and Signal Processing*, pp 3533-3536, Apr. 2009, Taipei, Taiwan.
- [C26] M. A. Hossain, P. K. Atrey and A. El Saddik. Dynamic gain estimation in ambient media services. *The 1st ACM Int. Workshop on Semantic Ambient Media Experience*, pp 49-56, Oct. 2008, Vancouver, BC, Canada.
- [C25] M. A. Hossain, P. K. Atrey and A. El Saddik. Context-aware QoI computation in multisensor systems. *First IEEE Int. Workshop on Quality of Information for Sensor Networks*, Sep-Oct 2008, Atlanta, GA, USA.
- [C24] P. K. Atrey, M. A. Hossain and A. El Saddik. Automatic scheduling of CCTV camera views using a human-centric approach. *IEEE Int. Conference on Multimedia and Expo*, Jun. 2008, Hannover, Germany.
- [C23] P. K. Atrey and A. El Saddik. Ambient aware authentication of digital evidences. *The 21st Canadian Conf. on Electrical and Computer Engineering*, pp 2037-2040, May 2008, Niagara Falls, ON, Canada.
- [C22] M. A. Hossain, P. K. Atrey and A. El Saddik. Managing ambient media preferences in distributed environments for service personalization. *Int. Symposium on Parallel Architectures, Algorithms, and Networks*, pp. 204-209, May 2008, Sydney, Australia.



- [C21] M. A. Hossain, P. K. Atrey and A. El Saddik. Learning multi-sensor confidence using difference of opinions. *IEEE Int. Instrumentation and Measurement Technology Conference*, May 2008, Victoria, British Columbia, Canada.
- [C20] P. K. Atrey, M. A. Hossain and A. El Saddik. A method for computing the reputation of multimedia services through selection and composition. *Fifteenth Annual IS&T/SPIE Conf. on Multimedia Computing and Networking*, Vol. 6818, pp H1-H8, Jan. 30-31, 2008, San Jose, California, USA
- [C19] P. K. Atrey, M. A. Hossain and A. El Saddik. A multimedia-based system for monitoring sleepwalkers. *IEEE Int. Conf. on Signal Processing and Communications*, pp 1459-1462, Nov. 2007, Dubai, UAE.
- [C18] P. Sherisha, P. K. Atrey and A. El Saddik. Towards an intelligent GPS-based vehicle navigation system for finding parking lots. *IEEE Int. Conf. on Signal Processing and Communications*, pp 1251-1254, Nov. 2007, Dubai, UAE.
- [C17] H. Ibrahim, P. K. Atrey and A. El Saddik. Semantic similarity based trust computation in websites. *First ACM Int. Workshop on The Many Faces of Multimedia Semantics*, pp 65-72, Sep. 2007, Augsburg, Germany.
- [C16] M. A. Hossain, P. K. Atrey and A. El Saddik. Smart mirror for ambient home environment. *The 3rd IET Int. Conf. on Intelligent Environments*, pp 589-596, Sep. 2007, Ulm, Germany.
- [C15] M. A. Hossain, P. K. Atrey and A. El Saddik. Modeling quality of information in multi-sensor surveillance systems. *Int. Workshop on Ambient Intelligence, Media, and Sensing, (Associated with the Int. Conf. on Data Engineering)*, pp 11-18, Apr. 20, 2007, Istanbul, Turkey.
- [C14] P. K. Atrey, M. S. Kankanhalli and A. El Saddik. Confidence building among correlated streams in multimedia surveillance systems. *Int. Conf. on Multimedia Modeling*, pp 155-164, Jan. 2007, Singapore.
- [C13] V. K. Singh, P. K. Atrey and M. S. Kankanhalli. Coopetitive multimedia surveillance. *Int. Conf. on Multimedia Modeling*, pp 343-352, Jan. 2007, Singapore.
- [C12] K. G. Sivarama, P. K. Atrey, V. K. Singh, K. Ramakrishnan and M. S. Kankanhalli. A design methodology for selection and placement of sensors in multimedia surveillance systems. *The 4th ACM Int. Workshop on Video Surveillance and Sensor Networks*, pp 121-130, Oct. 2006, Santa Barbara, CA, USA.
- [C11] K. Vaiapury, P. K. Atrey, M. S. Kankanhalli and K. Ramakrishnan. Non-identical duplicate detection in video using the SIFT method. *Int. Conf. on Visual Information Engineering*, pp 537-542, Sep. 2006, Bangalore, India.
- [C10] P. K. Atrey, V. Kumar, A. Kumar and M. S. Kankanhalli. Experiential sampling based foreground/background segmentation for video surveillance. *IEEE Int. Conf. on Multimedia and Expo*, Jul. 2006, Toronto, Canada.
- [C9] P. K. Atrey, N. C. Maddage and M. S. Kankanhalli. Audio based event detection for multimedia surveillance. *IEEE Int. Conf. on Acoustics, Speech, and Signal Processing*, pp V813-816, May 2006, Toulouse, France.
- [C8] P. K. Atrey, M. S. Kankanhalli and R. Jain. Timeline-based information assimilation in multimedia surveillance and monitoring systems. *The 3rd ACM Int. Workshop on Video Surveillance and Sensor Networks*, pp 103-112, Nov. 2005, Singapore.
- [C7] V. K. Singh and P. K. Atrey. Coopetitive visual surveillance using model predictive control. *The 3rd ACM Int. Workshop on Video Surveillance and Sensor Networks*, pp 149-158, Nov. 2005, Singapore.
- [C6] P. K. Atrey and M. S. Kankanhalli. Goal based optimal selection of media streams. *IEEE Int. Conf. on Multimedia and Expo*, pp 305-308, Jul. 2005, Amsterdam, The Netherlands.
- [C5] P. K. Atrey and M. S. Kankanhalli. Probability fusion for correlated multimedia streams. *ACM Int. Conf. on Multimedia*, pp 408-411, Oct. 2004, New York City, NY, USA.

- [C4] P. K. Atrey, W.-Q. Yan, E.-C. Chang and M. S. Kankanhalli. A hierarchical signature scheme for robust video authentication using secret sharing. *The 10th Int. Multimedia Modeling Conf.*, pp 330-337, Jan. 2004, Brisbane, Australia.
- [C3] P. K. Atrey and N. Rajpal. Efficient representation of contours and its applications. *The 7th Int. Workshop on Advanced Image Technology*, pp 353-357, Jan. 2004, Singapore.
- [C2] P. K. Atrey, A. De and N. Rajpal. Polynomial representation of 2-D image boundary contours. *IEEE Region 10 Conf. on Computers, Communications, Control and Power Engineering (TENCON '02)*, Vol. 1, pp 257- 260, Oct. 2002, Beijing, China.
- [C1] P. K. Atrey, S. Dhawan and N. Rajpal. Minimizing the control points and studying the behavior of resulting 2D/3D curves. *All India Seminar on Computer Communication and Networks*, pp 76-79, Nov. 2001, Roorkee, India.

#### **Peer Reviewed Letters**

- [L1] M. Saini, P. K. Atrey, S. Mehrotra and M. S. Kankanhalli Considering implicit channels in privacy analysis of video data. *IEEE COMSOC MMTC E-letter*, Vol. 6, No. 11, pp 27-30, Nov. 2011.

#### **Peer Reviewed Book Chapters**

- [B5] G. Varshney, M. Misra, and P. K. Atrey. Cyber attacks via Google chrome browser extensions. In *Moving out of Security Rut: New Directions in Cyber Security*. Eds. S. Goel, Y. Hong, J. Giboney, and P. K. Atrey, World Scientific Publishing (In press).
- [B4] P. K. Atrey, A. Lathey and A. Yakubu. Encrypted domain multimedia content analysis. In *Frontiers of Multimedia Research*, Eds. S.-F. Chang, (Chapter 4), Association for Computing Machinery and Morgan & Claypool, pp 75-104, (2018).
- [B3] P. K. Atrey. Event representation in multimedia observation systems. In *Effective Surveillance for Homeland Security: Balancing Technology and Social Issues*, Eds. Francesco Flammini, Roberto Setola and Giorgio Franceschetti, (Chapter 7), CRC Press / Taylor & Francis, pp 143-168, (2013).
- [B2] M. Saini, P. K. Atrey and M. S. Kankanhalli. Workload modeling for multimedia surveillance systems. In *Emerging Trends in Machine Learning*, Eds. S. Ramanna, L. C. Jain and R. J. Howlett, (Chapter 16), Springer Press, pp 419-440 (2013).
- [B1] P. K. Atrey, A. El Saddik and M. S. Kankanhalli. Digital video authentication: System properties, design issues and techniques. In *Handbook of Research on Secure Multimedia Distribution*, (Chapter XVI), IGI publisher, pp 298-314 (2009).

#### **Edited Books**

- [E3] *Moving out of Security Rut: New Directions in Cyber Security*. Publisher: World Scientific Publishing. S. Goel; Y. Hong; J. Giboney; and P. K. Atrey (Eds.) (In press)
- [E2] *Intelligent Multimedia Surveillance: Current Trends and Research*. Publisher Springer. P. K. Atrey; M. Kankanhalli; A. Cavallaro (Eds.) (2013).
- [E1] *Managing Trust in Cyberspaces*. CRC Press. P. K. Atrey; S. M. Thampi; B. Bhargava (Eds.) (2013).

## **RESEARCH ADVISING**

### **Current Students**

- [7] Ashish Agarwala (Ph.D.), Secure data deduplication over cloud
- [6] Shashank Arora (Ph.D.) , Secure cloud-based online editing
- [5] Shivam Parikh (Ph.D.), Fake news detection in social media
- [4] Vikram Patil (Ph.D.), Secure location based services using GPS trajectory data
- [3] Gaurav Varshney\* (Ph.D.), Web phishing detection (Visiting Scholar from Indian Institute of Technology, Roorkee, India)

- [2] Meet Shah (MS), Secure searching in pdf documents
- [1] Madeeha Khan (U.G.), Searching keywords over encrypted audio data

**Other current students:** Aditya Kiran (MS), Nikhil Gangrade (MS), Vineesha Earle (MS), Yun Wang (MS), Vignesh (MS), Vinay Gadiraju (MS), Sai Nandamuri (MS), Chintan Dave (MS), Jimit Patel (MS), Ravi Pilla (MS), Manisha Sharma (MS), Akshay Chand (MS), Rahul Singh (MS), Vidhyanathan (MS), Kartaki Patel (MS), Byron Remierz (MS), Sparsh Garg (MS).

### Past Students

*University at Albany, SUNY*

- [30] Priyanka Singh (Postdoc, 2017), Security and privacy in cloud-based systems
- [29] Neha Sharma (Intern, 2017), Secure PDF merging
- [28] Padmavathi Iyer (M.S., 2017), Email spoofing detection using volatile memory forensics.
- [27] Ashok Chakravarthy (M.S., 2016), Malicious browser extensions.
- [26] Shashank Arora (M.S., 2016), Secure cloud-based document editing.
- [25] Amol Shete (M.S., 2016), A mobile app for web phishing detection.
- [24] Sneha Banala (M.S., 2016), Secure online image editor.
- [23] Lakshay Anand (UG, 2016), Secure online pdf merging.
- [22] Odd-Arild Kristensen (M.S., 2015), Secure cloud-based video editing.
- [21] Kaliel Williamson (U.G., 2015), A secure emailing framework.

**Other past students:** Anthony Paradiso (M.S., 2016), Aaron Champagne (M.S., 2016), Harish Sheelamanthula (M.S., 2016), Yun Wang (M.S., 2015), Jeet Patel (M.S., 2014).

*University of Winnipeg*

- [20] M. Abukari Yakubu (M.S, 2015), Secure Cloud-based audio storage and processing.
- [19] Bakul Trehan (M.S, 2015), A framework for anonymous video surveillance.
- [18] Ashish Tripathi (M.S, 2015), Personality assessment and its role in persuasion in social networks.
- [17] Qianjia Huang (M.S, 2015), Cyber bullying detection using social networks features.
- [16] Shally Bhardwaj (M.S, 2014), Personality assessment using multiple online social networks.
- [15] Kasun Senevirathna (M.S, 2014), A secure and privacy aware architecture for online social networking.
- [14] Ankita Lathey (M.S, 2014), Secure image enhancement over cloud.
- [13] Shreelatha Bhadravati (M.S, 2014), Scalable secret sharing of compressed multimedia (Co-supervised with Prof. M. Khabbazian)
- [12] Nishant Joshi D (M.S, 2014), Secure routing in wireless sensor networks. (Visiting Scholar from National Institute of Technology, Surathkal, India)
- [11] Himanshu Agarwal (Ph.D., 2013), Image watermarking in real-oriented transform domain. (Visiting Scholar from Indian Institute of Technology, Roorkee, India)
- [10] Taylor Budzan (U.G., 2013), PDF protection using secret sharing.
- [9] Manoranjan Mohanty\*\*\* (Ph.D., 2012), Secure medical data visualization over cloud. (Visiting Scholar from National University of Singapore, Singapore)
- [8] Robert Bisewski (M.S, 2012) , Modeling, simulation and analysis of a weaponry-equipped camera surveillance system.
- [7] Michael Moski (U.G., 2012), An intuitive touch screen interface for car remote control.
- [6] Chidansh Bhatt (Ph.D., 2011), Multimedia data mining. (Visiting Scholar from National University of Singapore, Singapore)

- [5] Khaled Amriki (M.S, 2011), A scientific approach for the placement of surveillance cameras on a bus.
- [4] Saeed Alharthi (M.S., 2011), Improved methods for secret image/video sharing.
- [3] Kevin Hildebrand (U.G., 2011), Text secret sharing.
- [2] Mukesh Saini\*\*\* (Ph.D., 2010), Privacy in multimedia surveillance. (Visiting Scholar from National University of Singapore, Singapore)
- [1] Spencer Guest (U.G., 2009), PEER: An effective and efficient personal website organizer.

**Other past students:** Weiguo Zhang (U.G., 2009), Vitali Unke (U.G., 2009), Laura Horosko (U.G., 2010), Yizhe Zeng (U.G., 2010), Michael Saull (U.G., 2010), Brenton Fedyk (U.G., 2012), Adam Rehill (2012), James Colp (2013-14).

## TEACHING

### Courses Taught

- **@University at Albany, SUNY, USA (2014-present)**
  - ICSI/ICEN-201 Introduction to Computer Science (Spring 2017, Fall 2017)
  - ICSI-526-426 Cryptography (Spring 2015, Spring 2016, Spring 2017, Spring 2018)
  - ICSI-533/433 Theory and Practice of Multimedia Computing (Fall 2015, Fall 2016)
  - ICSI-660/445 Theory and Practice of Security and Privacy (Fall 2014)
- **@University of Winnipeg, Canada (2008-2014)**
  - GACS-7204 Multimedia Computing and Applications (Fall 2009, Fall 2011, Fall 2013)
  - GACS-7401 Current Topics in Computer Science (Winter 2014)
  - GACS-7104 Theory and Practice of Security and Privacy (Fall 2010, Fall 2012)
  - ACS-3921/4921 Computer Security and Privacy (Winter 2010, Fall 2010, Fall 2011, Fall 2012, Fall 2013)
  - ACS-3916 Human Computer Interaction (Winter 2012, Winter 2013, Winter 2014)
  - ACS-3916 Graphical User Interfaces (Winter 2009, Winter 2010, Winter 2011)
  - ACS-2947 Data Structures and Algorithms(Winter 2011)
  - ACS-2906 Computer Architecture and System Software (Winter 2009, Fall 2009)
  - ACS-2909 Introduction to Internet Programming (Fall 2008)
  - ACS-2914 Relational Database Application Development (Fall 2008)
  - ACS-1903 Programming Fundamentals I (Winter 2009, Winter 2012)
- **@National University of Singapore (2003-2005)**
  - CS5231-Cryptographic Techniques and Data Security
  - CS3235-Introduction to Computer Security
  - CS2106-Introduction to Operating Systems
- **@Delhi College of Engineering, University of Delhi (1998-2002) and @Deenbandhu Chhotu Ram University Of Science and Technology, Murthal, Haryana (1992-1998) (India)**
  - Computer Graphics & Multimedia, Data Base Management Systems, Computer Networks, Advanced Computer Architecture & Parallel Processing, Microprocessors and Applications, 8086/8088-Assembly Language, Data Structures, Design and Analysis of Algorithms, Principle of Operating Systems, Computer System Organization, and Graphical User Interface (Windows API Programming)

### Curriculum Development

- **@University at Albany, SUNY, USA (2014-present)**
  - ICSI-532/432 Theory and Practice of Multimedia Computing (Graduate and senior undergraduate level)
- **@ University of Winnipeg (2008-2014)**
  - ACS-7104 Theory and Practice of Security and Privacy (Graduate level)
  - ACS-7204 Multimedia Computing and Applications (Graduate level)
  - ACS-7303 Computer Systems for Society (Graduate level)
  - ACS-3921/4921 Computer Security and Privacy (Undergraduate level)

- ACS-1809 Website Design and Development (Undergraduate level)
- ACS-3916 Human Computer Interaction
- **Other Curriculum Development Work (1998-2002)**
  - Developed Image Processing and Multimedia Lab at Delhi Technical University, Delhi, India (2001)
  - Designed the curriculum for B.E. (Information Technology) and M.E. (Computer Engineering) courses at Delhi Technical University, Delhi, India (2001-2002)

## SCHOLARLY AND PROFESSIONAL ACTIVITIES

### Editorial Board Service

- Associate Editor, ACM Trans. on Multimedia Computing, Communications and Applications (2012-present)
- Associate Editor, Elsevier Signal Processing: Image Communication J. (2016-present)
- Associate Editor for IGI International J. of Digital Crime and Forensics (2014-present)
- Associate Editor, Wiley ETRI J. (2010-present)
- Guest Editor, Springer Multimedia Systems J. (2011)
- Guest Editor, Springer J. of Multimedia Tools and Applications (2012)
- Co-Director, IEEE MMTC Communications - Review (2016-present)
- Editor, IEEE MMTC Communications - Review (2012-16)
- Editor, SIGMM Education Column (2011-2015)

### Keynote Talks

- [K7] “SecureCTask: Secure tasking over untrusted third-party servers”, at the NetSec’18 event conducted by Indian Institute of Technology (IIT) Roorkee, India. (1/2018)
- [K6] “Secure cloud-based multimedia processing and editing”, (via Skype) at the 7th Edition of National Workshop on Computer Vision and Image Processing Techniques (NYCVIPT’17), Amrita University, Coimbatore, India, Coimbatore, India. (3/2017)
- [K5] “Don’t know me, just process me: Secure computing in outsourced environment”, (via Skype) at the International Conference on Information Technology (InCITE) - The Next Generation IT Summit on the Theme - Internet of Things: Connect your Worlds (InCITE’16), Noida, India. (10/2016)
- [K4] “Don’t know me, just process me: Secure computing in outsourced environment”, (via Skype) at the International Conference on Advanced Computing and Software Engineering (ICACSE’16), Sultanpur, India. (10/2016)
- [K3] “Security and privacy issues in multimedia systems”, (in person) at the Int. Conf. on Computer Vision and Image Processing (CVIP’16), Roorkee, India. (2/2016)
- [K2] “Secure multimedia data analytics over cloud”, (in person) at the Int. Conf. on Advances in Computing, Communications and Informatics (ICACCI’13), Mysore, India. (8/2013)
- [K1] “Secure multimedia data analytics over cloud”, (via Skype) at Int. Conf. on Security in Computer Networks and Distributed Systems (SNDS’12), Trivandrum, India. (10/2012)

### Invited Talks

- [I37] “SecureCTask: Secure tasking over untrusted third-party servers”, at the University at Massachusetts Amherst, MA, USA. (11/2017)
- [I36] “Secure cloud-based multimedia data analytics”, at IADA Lightning Talks Program 2016-2017, IADA University at Albany, University at Albany, SUNY, NY, USA. (volunteered) (9/2016)
- [I35] “Who is watching who: Anonymous video surveillance for public safety”, at Amity University, Noida, India. (8/2016)
- [I34] “I can’t trust my social network operator - what to do - An approach for secure and privacy-aware social networking”, at Indian Institute of Technology, Roorkee, India. (7/2016)

- [I33] “Uff - you are watching me - A framework for anonymous surveillance”, at Indian Institute of Technology, Roorkee, India. (7/2016)
- [I32] “How to write a research paper my thoughts”, at Indian Institute of Technology, Roorkee, India. (7/2016)
- [I31] “Dont know me, just process me: Towards secure computing in outsourced environment”, at Indian Institute of Technology, Roorkee, India, Roorkee, India. (7/2016)
- [I30] “How to write a research paper - my thoughts”, at University at Albany, SUNY, NY, USA. (volunteered) (2/2015)
- [I29] “Security and privacy issues in large-scale cloud-based multimedia systems”, at University at Albany, SUNY, NY, USA. (volunteered) (10/2014)
- [I28] “Secure multimedia analytics over cloud”, at MIT Media Lab, USA. (7/2014)
- [I27] “Secure visual data analytics over cloud”, at University of Alberta, Canada. (6/2014)
- [I26] “How to write a research paper”, at University of Winnipeg, Canada. (3/2014)
- [I25] “Secure multimedia data analytics over cloud”, at University at Albany, SUNY, NY, USA. (3/2014)
- [I24] “Secure cloud-based imaging”, at University of Manitoba, Canada. (12/2013)
- [I23] “Secure multimedia processing over cloud”, University of Winnipeg, Canada. (12/2013)
- [I22] “Peoples privacy in the IT age”, at Fred Douglas Seniors Center, Winnipeg, Canada. (10/2013)
- [I21] “Secure multimedia processing over cloud”, at D.C.R. University of Science and Technology, Murthal, India. (8/2013)
- [I20] “How to write a research paper - my thoughts”, at National Institute of Technology, Surathkal, India. (8/ 2013)
- [I19] “Secure multimedia processing over cloud”, at National Institute of Technology, Surathkal, India. (8/ 2013)
- [I18] “Adaptive workload equalization in multi-camera surveillance systems”, at Indraprastha Institute of Information Technology, Delhi, India. (8/2013)
- [I17] “Adaptive workload equalization in multi-camera surveillance systems”, at South Asian University, Delhi, India. (8/2013)
- [I16] “Secure multimedia processing over cloud”, at Indian Institute of Technology, Roorkee, India. (8/2013)
- [I15] “Adaptive workload equalization in multi-camera surveillance systems”, at Indian Institute of Technology, Roorkee, India. (8/2013) 17. “How to write a research paper”, at University of Winnipeg, Canada. (5/2013)
- [I14] “Secure medical data visualization over cloud”, at Indian Institute of Technology, Roorkee, India. (2/2013)
- [I13] “Secure medical data visualization over cloud”, at Graphic Era University, Dehradun, India. (2/2013)
- [I12] “Privacy aware publication of surveillance video”, at University of Winnipeg, Canada. (9/2012)
- [I11] “Secure medical data visualization over cloud”, at University of Ottawa, Canada. (8/2012)
- [I10] “Secure medical data visualization over cloud”, at University of Ontario Institute of Technology, Canada. (8/2012)
- [I9] “Secure medical data visualization over cloud”, at University of Windsor, Canada. (8/2012)
- [I8] “People’s privacy in video surveillance systems”, Skywalk lecture at Winnipeg Millennium Library, Canada. (2/2012)
- [I7] “Privacy-aware publication of surveillance videos”, at Indian Institute of Science, Bangalore, India. (8/2011)
- [I6] “Privacy-aware publication of surveillance videos”, at Delhi Technological University, Delhi, India. (8/2011)

- [I5] “Privacy-aware publication of surveillance videos”, at College of Engineering, Roorkee, India. (8/2011)
- [I4] “Advances in multimedia surveillance”, a 4-hour technical session at the Faculty Development Program conducted in Ambedkar Institute of Technology, Delhi, India. (7/2011)
- [I3] “Information assimilation in multimedia surveillance systems”, at the UWinnipeg, Canada. (3/2008)
- [I2] “Information assimilation in multimedia surveillance systems”, at Indian Institute of Technology, Roorkee, India. (12/2007)
- [I1] “Information assimilation in multimedia surveillance systems”, at Laurentian University, Sudbury, Ontario, Canada. (11/2007)

### **Conference/Workshop Presentations**

- [P27] “SecureCEdit: An approach for secure cloud-based document editing”, at the 2nd IEEE Workshop on Security and Privacy in the Cloud (SPC’16) in conjunction with IEEE Conference on Communications and Network Security (CNS’16), Philadelphia, PA, USA. (10/2016)
- [P26] “Encrypted domain cloud-based speech noise reduction with comb filter”, at the first IEEE International Workshop on “Privacy Issues in Multimedia” (PIM’16) in conjunction with IEEE International Conference on Multimedia and Expo (ICME’16), Seattle, WA, USA. (07/2016)
- [P25] “Don’t see me, just edit me: Towards secure cloud-based video editing”, at the 11th Annual Symposium on Information Assurance (ASIA’16), Albany, NY, USA. (06/2016)
- [P24] “Security and Privacy Issues in Multimedia Systems”, at the ACM Int. Conf. on Multimedia (ACMMM15), Brisbane, Australia. (As a Multimedia Rising Star) (10/2015)
- [P23] “Assessing personality using demographic information from social media data”, at the ACM Social Media & Society Conference (SMSociety’15), Toronto, Canada. (07, 2015)
- [P22] “I know how to persuade you if I know your personality: The effect of personality on social persuasion in quantified-self scenarios”, at the ACM Social Media & Society Conference (SMSociety’15), Toronto, Canada. (07/ 2015).
- [P21] “Secure audio reverberation over cloud”, at the 10th Annual Symposium on Information Assurance (ASIA’15), Albany, NY, USA. (06/2015).
- [P20] “An intuitive touch screen interface for car remote control”, at the 1st ACM Multimedia Workshop on Emerging Multimedia Applications and Services for Smart Cities (EMASC14), Orlando, FL, USA. (11/2014)
- [P19] “Scale me, crop me, know me not: Supporting scaling and cropping in secret image sharing”, at the IEEE Int. Conf. on Multimedia and Expo, San Jose, CA, USA. (07/2013)
- [P18] “A secret sharing based privacy enforcement mechanism for untrusted social networking operators”, at the 3rd ACM Int. Workshop on Multimedia in Forensics and Intelligence, Scottsdale, AZ, USA. (11/2011)
- [P17] “Towards optimal placement of surveillance cameras in a bus”, at the IEEE Int. Conf. on Multimedia and Expo - Workshop on Advances in Automated Multimedia Surveillance for Public Safety, Barcelona, Spain. (07/2011)
- [P16] “An efficient method for protection of text documents using secret sharing”, at the Int. Conf. on Frontiers of Computer Science, Bangalore, Spain. (08/2011)
- [P15] “Functionality delegation in distributed surveillance systems” at the IEEE Int. Conf. on Advanced Video and Signal-Based Surveillance - Workshop on Multimedia Systems for Surveillance, Boston, USA. (08/2010)
- [P14] “An improved scheme for secret image sharing” at the IEEE Int. Conf. on Multimedia and Expo - Workshop on Content Protection and Forensics, Singapore. (07/2010)
- [P13] “A user friendly mobile device interface to assist security officers in physical monitoring at public places” at the ACM Int. Workshop on Ambient Media Computing: Part 1: Sensory Media Systems and Applications, Beijing, China. (10/2009)

- [P12] “A hierarchical model for representation of events in multimedia observation systems”, at the ACM Int. Workshop on Events in Multimedia, Beijing, China. (10/2009)
- [P11] “Dynamic gain estimation in ambient media services”, at the 1st ACM Int. Workshop on Semantic Ambient Media Experience, Vancouver, BC, Canada. (10/2008)
- [P10] “Ambient aware authentication of digital evidences”, at the 21st Canadian Conference on Electrical and Computer Engineering, Niagara Falls, Ontario, Canada. (05/2008)
- [P9] “A method for computing the reputation of multimedia services through selection and composition”, at the Fifteenth Annual IS&T/SPIE Conference on Multimedia Computing and Networking, San Jose, California, USA. (01/2008).
- [P8] “A multimedia-based system for monitoring sleepwalkers”, at the IEEE Int. Conf. on Signal Processing and Communications, Dubai, UAE. (11/2007)
- [P7] “Towards an intelligent GPS-based vehicle navigation system for finding parking lots”, at the IEEE Int. Conf. on Signal Processing and Communications, Dubai, UAE. (11/2007)
- [P6] “Confidence building among correlated streams in multimedia surveillance systems”, at the 13th Int. Conf. on Multimedia Modeling, Singapore. (01/2007)
- [P5] “Timeline-based information assimilation in multimedia surveillance and monitoring systems”, at the 3rd ACM Int. Workshop on Video Surveillance and Sensor Networks, Singapore. (11/2005)
- [P4] “Goal based optimal selection of media streams”, at the IEEE Int. Conf. on Multimedia and Expo, Amsterdam, The Netherlands. (05/2005)
- [P3] “Probability fusion for correlated multimedia streams”, at the ACM Int. Conf. on Multimedia, New York City, NY, USA. (10/2004)
- [P2] “Efficient representation of contours and its applications”, at the 7th Int. Workshop on Advanced Image Technology, Singapore. (01/2004)
- [P1] “A hierarchical signature scheme for robust video authentication using secret sharing”, at the 10th International Multi-Media Modeling Conference, Brisbane, Australia. (01/2004)

#### **Session Chaired**

- [SC13] Session on “Machine Learning & System Safety, Security and Reliability” at the IEEE International Conference on Systems, Man, and Cybernetics, Banff, Canada. (10/2017).
- [SC12] Session on “Emerging Cyber Threats” at the 11th Annual Symposium on Information Assurance (ASIA’17), Albany, NY, USA. (06/2017)
- [SC11] Oral Session 1 at the 1st IEEE Workshop on Privacy Issues in Multimedia (PIM’16), Seattle, WA, USA. (06/2016)
- [SC10] Session on “Web Security” at the 11th Annual Symposium on Information Assurance (ASIA’16), Albany, NY, USA. (06/2016)
- [SC9] Session on “Disasters and Incident Response” at the 10th Annual Symposium on Information Assurance (ASIA’15), Albany, NY, USA. (06/2015)
- [SC8] Session on “Multimedia Security, Privacy and Forensics” at IEEE Int. Conf. on Multimedia and Expo, San Jose, CA, USA. (07/2013)
- [SC7] Oral Session 2 at the IEEE ICME Workshop on Advances in Automated Multimedia Surveillance for Public Safety, Barcelona, Spain. (07/2011)
- [SC6] Poster Session at the IEEE ICME Workshop on Advances in Automated Multimedia Surveillance for Public Safety, Barcelona, Spain. (07/2011)
- [SC5] Session on “Surveillance Applications” at the IEEE AVSS Workshop on Multimedia Systems for Surveillance, Boston, USA. (08/2010)
- [SC4] Session on “Privacy-aware Multimedia Surveillance”, IEEE Int. Conf. on Multimedia and Expo, Singapore. (07/2010)
- [SC3] “Context Awareness” Session, ACM Int. Conf. on Multimedia, Beijing, China. (10/2009)
- [SC2] “Video Browsing” Session, ACM Int. Conf. on Multimedia, Vancouver, Canada.



- [SC1] Session on “Image Processing”, Canadian Conference on Electrical and Computer Engineering, Niagara Falls, Canada. (05/2008)

### **Special Session Organized**

- [SS2] Principal Organizer, Special Session on “Privacy-aware Multimedia Surveillance”, IEEE Int. Conf. on Multimedia and Expo, Jul. 2010, Singapore.
- [SS1] Co-Organizer, Special session on “Multimedia Surveillance” at the IEEE Int. Conf. on Acoustics, Speech, and Signal Processing, Apr. 2009, Taipei, Taiwan.

### **Workshop Organized**

- [W7] The 1st IEEE Int. Workshop on Privacy Issues in Multimedia, Jul. 2016, Seattle, WA, USA.
- [W6] PSIVT15 Workshop on Video Surveillance, Nov. 2015, Auckland, New Zealand.
- [W5] The 3rd IEEE Int. Workshop on Advances in Automated Multimedia Surveillance for Public Safety, Jul. 2013, San Jose, CA, USA.
- [W4] The 2nd IEEE Int. Workshop on Advances in Automated Multimedia Surveillance for Public Safety, Jul. 2012, Melbourne, Australia.
- [W3] The 1st IEEE Int. Workshop on Advances in Automated Multimedia Surveillance for Public Safety, Jul. 2011, Barcelona, Spain.
- [W2] The 2nd IEEE Workshop on Multimedia Systems for Surveillance at the Int. Conf. on Advanced Video and Signal-Based Surveillance, Aug. 2011, Klagenfurt, Austria.
- [W1] The 1st IEEE Workshop on Multimedia Systems for Surveillance at the Int. Conf. on Advanced Video and Signal-Based Surveillance, Aug. 2010, Boston, USA.

**Tutorials Organized** - Tutorial Organizer, Advances in Multimedia Surveillance at International Conference on Frontiers in Computer Science (IcFocs-2011), Bangalore, India, August, 2011.

### **Conference Organization**

#### **2017**

- PC Member, The IEEE International Symposium on Multimedia (ISM'16), December 2016, San Jose, CA, USA.
- PC Member, The Workshop on Privacy in Collaborative & Social Computing (PiCSoc'16), Pittsburgh, PA, USA.
- Program Co-Chair, The First International Symposium on Multimedia Security and Digital Forensics (MSDF 2017), Dec. 2017, Guangzhou, China.
- International Advisory Committee Member, Int. Conf. on Computer Vision and Image Processing (CVIP'17), Feb. 2017, Noida, India.
- Review Chair, The 10th Annual Symposium on Information Assurance (ASIA'17), June 2017, Albany, NY, USA.
- Area Chair, The 2017 IEEE International Conference on Systems, Man, and Cybernetics (SMC'2017), October 2017, Banff, Canada.
- PC Member, The IEEE International Symposium on Multimedia (ISM'17), December 2017, Taichung, Taiwan.
- PC Member, International Workshop on Digital Crime and Forensics, Dec. 2017, Nanchang, China.

#### **2016**

- PC Member, The IEEE International Symposium on Multimedia (ISM'16), December 2016, San Jose, CA, USA.
- PC Member, The Workshop on Privacy in Collaborative & Social Computing (PiCSoc'16), Pittsburgh, PA, USA.
- Lead Workshop Co-Organizer, The 1st IEEE International Workshop on “Privacy Issues in Multimedia” (PIM'16) with ICME'16, July 2016, Seattle, WA, USA.
- International Advisory Committee Member, Int. Conf. on Computer Vision and Image Processing (CVIP'16), Feb. 2016, Roorkee, India.
- International Advisory Committee Member, International Conference on Advanced Computing and Software Engineering (ICACSE'16), Sultanpur, India.

- PC Member, The 10th Annual Symposium on Information Assurance (ASIA'16), June 2016, Albany, NY, USA.
- PC Member, The 10th Web Science Conference (WebSci'16), Hannover, Germany.
- PC Member, International Workshop on Digital Crime and Forensics, Dec. 2016, Nanjing, China.

#### **2015**

- Organizing Co-Chair, PSIVT15 Workshop on Video Surveillance ( WSVS'15), November 2015, Auckland, New Zealand.
- PC Member, IEEE Int. Conf. on Image Processing (ICIP'15), October 2015, Quebec City, QC, Canada.
- PC Member, The 9th ACM Int. Conf. on Distributed Smart Cameras (ICDSC'15), September 2015, Seville, Spain.
- PC Member, Int. Workshop on Recent Advances in Digital Security: Biometrics and Forensics (BioFor'15), September 2015, Genova, Italy.
- PC Member, The 5th International Conference on IT Convergence and Security (ICITCS'15), August 2015, Kuala Lumpur, Malaysia.
- PC Member, The 11th International Conference on Signal Processing and Multimedia Applications (SIGMAP'15), July 2015, Colmar, Alsace, France.
- PC Member, The 2015 IEEE International Conference on Multimedia and Expo (ICME'15), June-July 2015, Torino, Italy.
- PC Member, IEEE Workshop on Hot Topics in 3D Multimedia (Hot3D) with ICME'15, June-July 2015, Torino, Italy.
- PC Member, The 10th Annual Symposium on Information Assurance (ASIA'15), June 2015, Albany, NY, USA.
- PC Member, IEEE Int. Conf. on Acoustics, Speech, and Signal Processing (ICASSP'15), April 2015, Brisbane, Australia.

#### **2014**

- PC Co-Chair, International Workshop on Multimedia Signal Processing Techniques and Applications (MSP'14), Delhi, India, September 2014.
- PC Member, Big and Broad Multimedia Track, The 22nd ACM International Conference on Multimedia (MM'14), Orlando, FL, USA, November 2014.
- PC Member, Multimedia Security, Privacy and Forensics Track, The 22nd ACM International Conference on Multimedia (MM'14), Orlando, FL, USA, November 2014.
- Demo Co-Chair, IEEE International Conference on Systems, Man and Cybernetics (SMC'14), San Diego, CA, USA, October 2014.
- PC Member, ACM/IEEE International Conference on Distributed Smart Cameras (ICDSC'14), Venezia, Italy, November 2014.
- PC Member, Pacific Rim Conference on Multimedia (PCM'14), Kuching, Malaysia, December 2014.
- PC Member, The Third International Conference on Advances in Computing, Communications and Informatics (ICACCI'14), Greater Noida, India, September 2014.
- PC Member, The 10th International Conference on Signal Processing and Multimedia Applications (SIGMAP'14), Vienna, Austria, August 2014.
- PC Member, The Eighth International Conference on Complex, Intelligent, and Software Intensive Systems (CISIS'14), Birmingham, UK, July 2014.
- PC Member, IEEE International Conference on Multimedia and Expo (ICME'14), Chengdu, China, July 2014.
- PC Member, The Third International Conference on Intelligent Systems and Applications (INTELLI'14), Seville, Spain, June 2014.
- PC Member, The Second International Conference on Security in Computer Networks and Distributed Systems (SNDS'14), Thiruvananthapuram, Kerala, India, March 2014.
- PC Member, International Conference on Active Media Technology (AMT'14), Warsaw, Poland, August 2014.
- PC Member, 2014 IEEE Asia Pacific Conference on Circuits & Systems (APCCAS'14), Ishigaki Island, Okinawa, Japan, November 2014.
- PC Member, Track 4: Multimedia Systems and Virtual Reality, The Eighth International Conference on Complex, Intelligent, and Software Intensive Systems (CISIS'14), Birmingham City University, Birmingham, UK, July 2014.

- PC Member, The 2nd IEEE ICME Workshop on Ambient Multimedia and Sensory Environment (AMUSE'14), Chengdu, China, July 2014.
- PC Member, The International Conference on Collaboration Technologies and Systems (CTS'14), Minneapolis, MN, USA, May 2014.

### 2013

- PC Member, Seventh ACM/IEEE International Conference on Distributed Smart Cameras (ICDSC'13), Palm Springs, CA, USA, November 2013.
- PC Member, The 1st ACM Workshop on Personal Data Meets Distributed Multimedia (PDM2), Barcelona, Spain, October 2013.
- Publicity Co-Chair, IEEE International Conference on Multimedia and Expo (ICME'13), San Jose, CA, USA.
- Area Chair, Short Papers Program, IEEE International Conference on Multimedia and Expo (ICME'13), San Jose, CA, USA.
- Program Co-Chair, International Symposium on Security in Computing and Communications (SSCC'13), Mysore, India.
- Organizer, The 3rd IEEE International Workshop on Advances in Automated Multimedia Surveillance for Public Safety (AAMS-PS'13), San Jose, CA, USA.
- PC Member, The 4th IEEE International Workshop on Hot Topics in 3D (Hot3D'13), San Jose, CA, USA.
- PC Member, The Second International Conference on Intelligent Systems and Applications (INTELLI'13), Venice, Italy.
- PC Member, The 10th International Conference on Signal Processing and Multimedia Applications (SIGMAP'13), Reykjavik, Iceland.
- PC Member, The 3rd IEEE Workshop on Camera Networks and Wide-Area Scene Analysis (WCNWASA'13), Portland, Oregon, USA.

### 2012

- General Co-Chair, The 2nd IEEE ICME workshop on Advances in Automated Multimedia Surveillance for Public Safety (AAMS-PS'12), Melbourne, Australia.
- PC Member, The 2nd IEEE Workshop on Camera Networks and Wide Area Scene Analysis (WCAWASA'12), Providence, Rhode Island, USA.
- Steering Committee Member, International Conference on Security in Computer Networks and Distributed Systems (SNDS'12), Trivandrum, India.
- PC Member, The First International Conference on Intelligent Systems and Applications (INTELLI'12), Chamonix /Mont Blanc, France.
- PC Member, International Symposium on Pervasive Systems, Algorithms, and Networks (IS-PAN'12), San Marcos, TX, USA.
- PC Member, IEEE International Conference on Multimedia and Expo (ICME'12), Melbourne, Australia.
- PC Member, ACM International Conference on Multimedia (MM'12), Nara, Japan.
- PC Member, "Multimedia Systems and Applications" track at The 15th International Conference on Network-Based Information Systems (NBIS'12), Melbourne, Australia.

### 2011

- Program Co-Chair, IEEE AVSS workshop on "Multimedia Systems for Surveillance Klagenfurt, Austria, August 2011.
- General Co-Chair, IEEE ICME International Workshop on Advances in Automated Multimedia Surveillance for Public Safety (AAMS-PS 2011), Barcelona, Spain.
- PC Member, IEEE International Conference on Multimedia and Expo (ICME 2011), Barcelona, Spain.
- Publicity Co-chair & PC Member, IEEE International Conference on Multimedia and Expo (ICME 2011), Barcelona, Spain.
- Publicity Co-chair, IEEE ICME International Workshop on Vision and Graphics Computing for Multimedia Communications ( VGMMC 2011, Barcelona, Spain.
- PC Member, IEEE ICME International Workshop on Content Protection and Forensics (CPAF 2011, Barcelona, Spain.
- PC Member, The Third International Workshop on Information Quality and Quality of Service for Pervasive Computing (IQ2S 2011), Seattle, USA.
- PC Member, International Conference on Signal Processing and Multimedia Applications (SIGMAP

2011), Seville, Spain.

- PC Member, The 2nd FTRA International Workshop on Multimedia and Semantic Technologies (MUST 2011), Crete, Greece.

#### **2010**

- Program Co-Chair, The 1st IEEE International Workshop on Multimedia Systems for Surveillance (MMSS 2010, Boston, USA).

- PC Member, ACM International Workshop on Multimedia in Forensics, Security and Intelligence (MiFor'2010), Firenze, Italy.

- PC Member, ACM International Workshop on Events in Multimedia (EiMM'2010), Firenze, Italy.

- PC Member, Applications Track, ACM International Conference on Multimedia (ACMMM 2010, Firenze, Italy).

- Special Session Organizer, IEEE International Conference on Multimedia and Expo (ICME 2010), Singapore.

- PC Member, IEEE ICME International Workshop on Content Protection and Forensics (CPAF 2010), Singapore.

- PC Member, International Conference on Signal Processing and Multimedia Applications, 2010, Athens, Greece.

- PC Member, IEEE Conference Multimedia and Ubiquitous Engineering, 2010, , San Diego, CA, USA.

- PC Member, International Conference on Active Media Technology, 2010, Toronto, Canada.

- PC Member, The International Workshop on Multimedia and Semantic Technologies (MUST 2010), Busan, Korea.

- PC Member, ACM Academic MindTrek 2010, Tempere, Finland.

#### **2009**

- PC Member, Applications Track, ACM International Conference on Multimedia, 2009, Beijing, China.

- PC Member, 1st ACM Workshop on Events in Multimedia, 2009, Beijing, China.

- PC Member, 1st ACM Workshop on Ambient Media Computing: Part 1: Sensory Media Systems and Applications, 2009, Beijing, China.

- PC Member, IEEE TENCON 2009, Singapore.

- PC Member, ACM Academic MindTrek 2009, Tempere, Finland.

- PC Member, International Conference on Signal Processing and Multimedia Applications, 2009, Milan, Italy.

- Co-Organizer, Special session on "Multimedia Surveillance" at the IEEE International Conference on Acoustics, Speech, and Signal Processing, 2009, Taipei, Taiwan.

#### **2008**

- Web Co-Chair and Technical Program Committee Member, ACM International Conference on Multimedia, 2008, Vancouver, Canada.

- Session Chair, Video Browsing Session, ACM International Conference on Multimedia, 2008, Vancouver, Canada.

- PC Member, Applications Track, ACM International Conference on Multimedia, 2008, Vancouver, Canada.

- PC Member, ACM Workshop on Visual Networks and Behavior Analysis, 2008, Vancouver, Canada.

- Session Chair, Image Processing Session, Canadian Conference on Electrical and Computer Engineering, 2008, Niagara Falls, Canada.

- Web Co-Chair and Technical Program Committee Member, ICST Ambi-Sys Conference, 2008, Quebec City, Canada.

#### **2007**

- PC Member , International Conference on Information Technology 2007, Rourkela, India.

- PC Member, IET International Conference on Visual Information Engineering 2007, London, UK.

- PC Member, IEEE International Conference on Signal Processing and Communications 2007, Dubai, UAE.

#### **Review Work**

- Reviewer for Grants
  - NSF SaTC (2016, 2017)
  - DHS (2017)

- NSERC Strategic Project Grant proposals (2010, 2011)
- NSERC Discovery Grant Individual (2011, 2012, 2014, 2017)
- NSERC CRD Grant (2012)
- Mitacs Postdoctoral Fellowship (2013, 2014)
- Reviewer for Journals
  - Springer Multimedia Systems Journal (MMSJ)
  - ACM Trans. on Multimedia Computing, Communications and Applications (TOMM)
  - IEEE Trans. on Multimedia (TMM)
  - IEEE Trans. on Circuits and Systems for Video Technology (CSVT)
  - IEEE Transactions on Systems, Man, and Cybernetics (TSMC)
  - IEEE Multimedia Magazine
  - IEEE Trans. on Information Forensics and Security (TIFS)
  - Inderscience International Journal of Security and Networks (IJSN)
  - Elsevier International Journal of System Software (IJSS)
  - EURASIP Journal on Image and Video Processing (JIVP)
  - International Journal of Information Systems and Engineering (JISE)
  - International Journal of Multimedia (JMM)
- Reviewer for Conferences/Workshops
  - ACM MM, IEEE SMC, IEEE ICME, IEEE ISM, IEEE MIPR, IEEE ICASSP, IEEE ICIP
- Reviewer for Theses
  - Reviewed 24 theses (14 MS and 10 PhD) from University of Winnipeg; University of Manitoba; Indian Institute of Technology, Roorkee; Sharda University; Indian Institute of Mines, Dhanbad; G.G.S. Indraprastha University; Punjab Technical University; Sikkim Manipal University; National Institute of Technology, Patna; Northcap University; Maharishi Markandeshwar University, Mulana; Thapar University; Delhi Technological University; Auckland University of Technology; Indraprastha Institute of Information Technology, Delhi.
- Theses Committees
  - Served on three PhD theses committees at the University at Albany, SUNY.

### **Professional Memberships**

Member of: IEEE, ACM, SIGMM, IEEE MMTC

### **ADMINISTRATIVE SERVICE**

- **@University at Albany, SUNY, USA (2014-present)**
  - Director, Computer Science Undergraduate Program (2015-present)
  - Member, CEAS Curriculum Committee (2016-present)
  - Member, UAlbany Graduate Studies Council (2015-17)
  - Member, UAlbany Senate (2015-17)
  - Computer Science Colloquiums Chair (2015-present)
- **@ University of Winnipeg, Canada (2008-14)**
  - Chair, Student Recruitment Committee (2013-2014)
  - Member, Canada Research Chair Tier 1 - Search Committee (Sep 2013 - Apr 2014)
  - Member, University of Winnipeg Academic Planning Committee (Sep 2012 - Aug 2014)
  - Member, University of Winnipeg Research Policy Committee (2013-2014)
  - Member, University of Winnipeg Faculty and Staff Awards Committee (2013-2014)
  - Member, ACS Department Graduate Program Committee (Mar 2013 - Aug 2014)
  - Member, ACS Department Personnel Committee (2012-13)
  - Member, ACS Department Curriculum Committee (2012-13)
  - Student Recruitment Coordinator (Sep 2012-Aug 2014)
  - Chair, ACS Department Graduate Program Committee (Sep 2012-Feb 2013)
  - University of Winnipeg Senator (2010-12)
  - Member, ACS Department Graduate Program Committee (2010-12)
  - Chair, ACS Department Review Committee (2010-12)
  - Chair, ACS Department Personnel Committee (2011-12)

- Member, University of Winnipeg Senate Graduate Studies Committee (2011-12)
- Member, University of Winnipeg Student Scholarship and Awards Committee (2010-12)
- Member, University of Winnipeg Senate Curriculum Committee (2008-09, 2009-10, 2010-11)
- Member, University of Winnipeg Faculty Tenure and Promotion Committee (2009-10, 2010-11)
- Member, ACS Department Personnel Committee (2010-11)
- Member, ACS Department Review Committee (2008-09, 2009-10)
- Member, ACS Department Curriculum Committee (2008-09, 2009-10)
- Member, University of Winnipeg Senate Sasol Committee (2008-09, 2009-10)
- 3-Year ACS Adviser (2009-10)

#### **COMMUNITY SERVICE**

- Volunteered as Area Coordinator for Heart and Stroke Foundation of Manitoba canvassing (2011-12)
- Served as a judge at the Manitoba Schools Science Symposium 2010
- Volunteered to do canvassing for the Canadian Cancer Society
- Volunteered to do canvassing for Canadian Diabetes Association
- Delivered a tutorial on “How to play Cricket” at Bairdmore Elementary School, Winnipeg
- Volunteered as Kit Captain for Heart and Stroke Foundation of Manitoba canvassing
- Interacted with high school kids and discussed research with them