

PRADEEP K. ATREY

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A SUMMARY OF ACCOMPLISHMENTS

Overall

Over 32 years of academic experience (18 years of post-PhD university-level research, teaching and service experience, and 10 years of pre-PhD university-level teaching and service).

Research

Publications: (> 150, **all peer-reviewed**)

- 48 journal articles (including 7 IEEE Trans., 9 ACM Trans., 9 Elsevier Journal, 19 Springer Journal)
- 98 conference/workshop papers (including 54 IEEE, 20 ACM).
- 5 book chapters, 3 edited books, 1 scholarly book, 1 letter, 2 guest editorials.

Research Citations:

- Google Scholar (to date): **Total citations 5050**, h-index 30, i10-index 74 (**A single paper is cited 1478 times**).

Major Research Contributions:

- Socially-Responsible, Trustworthy, and Fair Social Media Analysis, comprising 3 journal articles and 13 conference papers.
- User-Centered, Secure, and Privacy-Aware Multimodal Information Processing, encompassing 7 journal articles, 18 conference papers, 1 book chapter, and 1 scholarly book.
- AI-Enhanced and Human-Centered Privacy-Aware Security Systems, comprising 13 journal articles, 13 conference papers, 1 e-letter, and 2 edited books.

Awards and Honors:

- Two best-paper awards and two best-paper nominations.
- Four best editor awards.
- Two best reviewer awards.
- One research excellence award.
- One rising star award.
- Three outstanding conference service awards.
- Three university-level merit awards.

Media coverage: 10 including Fox News, NPR, and Times Union.

Grants: Total: \$728,773 (\$587,873 – external and \$140,900 – internal).

Students Supervised:

- Postdoc: 1 completed.
- PhD: 3 graduated and 2 currently supervising. In addition, 6 external PhD students interned at my lab.
- Master's: 65 graduated, 1 ongoing; Undergraduates: 8 graduated, 1 ongoing; High school interns: 4 completed, 1 ongoing.

Teaching

- **Taught over 20 different courses at 4 different universities across Asia and North America** in the past 32 years.
- Developed/revised many courses at graduate and undergraduate levels, including: Multimedia Computing; Cryptography; Capstone Project in Computer Science; Computer Systems for Society; Human-Computer Interaction.

Professional Activities

- Serving on the **editorial boards of four journals**, including the top tier journals in my field, i.e., IEEE Trans on Multimedia (TMM) and ACM Trans. on Multimedia Computing, Communications and Applications (TOMM).
- Served on the **organizing and technical program committees** of more than **151 conferences** in various roles, most notably, **Program Co-chair for ACM Multimedia 2023** and IEEE MIPR 2023.
- **79 Talks delivered:** 8 keynote speeches, 44 invited talks, 30 conference presentations.
- 12 workshops organized.
- Chaired 19 conference sessions.
- Reviewed numerous journal/conference papers, grant proposals (for NSF, NSERC, and DHS), MS and PhD theses nationally and internationally.

University and Community Service

- **Served on more than 30 committees** at university, college and department in the past 32 years.
 - Served on University-level Senate, Council on Promotions and Continuing Appointments, and Graduate Council.
 - As **Undergraduate Program Director for Computer Science for the past 10 years**.
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CURRENT ACADEMIC AFFILIATIONS

Associate Professor, Department of Computer Science, College of Nanotechnology, Science, and Engineering, **University at Albany, State University of New York (SUNY)**
Affiliated Faculty, AI Plus Institute, University at Albany, SUNY
Faculty Fellow, Center for Technology in Government (CTG), University at Albany, SUNY

EDUCATION

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

Motive: My research is fundamentally driven by the principle of “Science in Service to Society.”

Current focus: My current research focuses on developing innovative AI-enhanced solutions that enhance security, privacy, trust, and fairness for individuals. I aim to address human-centered challenges in information security, user privacy, and the detection and mitigation of cyberbullying and disinformation through social media analysis. It is also essential for these algorithms to function effectively across diverse political and socio-economic identities, underscoring the need for algorithmic fairness.

APPOINTMENTS HELD

Feb. 2016-present	Associate Professor	Computer Science Department, University at Albany, State University of New York, USA
Sep. 2014-Feb. 2016	Associate Professor (on leave) & Assistant Professor	Applied Computer Science Department, University of Winnipeg, Canada Computer Science Department, University at Albany, State University of New York, USA
Jul. 2012-Aug. 2016	Associate Professor	Applied Computer Science Department, University of Winnipeg, Canada
Jul. 2008-Jun. 2012	Assistant Professor	Applied Computer Science Department, University of Winnipeg, Canada
Aug. 2006-Jun. 2008	Postdoctoral Fellow	Multimedia Communications Research Lab., University of Ottawa, Canada
Jul. 2002-Jul. 2006	Research Scholar & Teaching Assistant	School of Computing, National University of Singapore, Singapore
Nov. 1998-Jul. 2002	Lecturer	Computer Engineering Department, Delhi Technological University (Formerly Delhi College of Engineering), India
Oct. 1992-Nov. 1998	Lecturer	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	Engineer (System Design)	Avery India Limited, Faridabad, India

AWARDS AND HONORS

2024	Recognized among the World’s Top 2% Researchers, as per a Stanford University study.
2023	Recognized for Outstanding Contributions at Technical Program Chair at the 31st ACM Int. Conf. on Multimedia (ACMMM23), a top tier conference in the field of Multimedia
2023	People Choice Award for the GARGI research poster at the UAlbany Showcase Event.
2022	Outstanding Area Editor Award for service at the Signal Processing: Image Communication Journal
2020	Best Paper Award: “GeoSecure-R: Secure computation of geographical distance using region-anonymized GPS data” at the The Sixth IEEE International Conference on Multimedia Big Data (BigMM’2020)
2018	Plaque of Appreciation on completing 10 years of service on the editorial board of ETRI Journal
2018	Outstanding Service Award for service at the 2017 IEEE SMC Conference
2017	Best Paper Award: “Browshing: A new way of phishing using a malicious browser

	extension” at the IEEE International Conference 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 President’s Merit Award for Exceptional Performance
2013	IEEE ICME Outstanding Organizing Committee Member (as Publicity Chair)
2012	University of Winnipeg President’s 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 President’s Merit Award for Exceptional Performance
2009	ETRI Journal Best Reviewer Award
2002-06	NUS Research Scholarship, National University of Singapore

MEDIA COVERAGE

[12/2024] **UAlbany News:** Prof. Pradeep Atrey has been highlighted in UAlbany’s news story featuring 42 of its researchers, including three from the Computer Science Department, who were recognized among the World’s Top 2% Researchers, according to a Stanford University study. (URL: <https://www.albany.edu/news-center/news/2024-ualbany-researchers-make-top-2-worldwide-list>)

[10/2024] **UAlbany News:** My team’s research on Gaze Uniformity in Group Photos was featured in UAlbany News. (URL: <https://www.albany.edu/news-center/news/2024-researchers-utilize-ai-improve-group-photos>).

[12/2018] **NPR (WAMC) - Academic Minutes:** I appeared on NPR (WAMC) - Academic Minutes and talked about a new way to fight fake news. (URL: <https://academicminute.org/2018/12/pradeep-atrey-university-at-albany-battling-fake-news-of-social-media/>).

[07/2018] **UAlbany News:** My student Vikram Patil and I were featured in UAlbany News “A Safer Way to Share Your Location” featuring their recent work on GPS location privacy (URL: <https://www.albany.edu/news/87601.php>).

[06/2018] **UAlbany News:** My student Shivam Parikh and I were featured in UAlbany News “Fake News Detector” featuring their recent work on fake news detection research (URL: <https://www.albany.edu/news/87326.php?>).

[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

Total: \$729,773

External Funding (\$588,873)

2009-15 Sole Principal Investigator (PI) - Natural Sciences and Engineering Research Council (NSERC) of Canada - Discovery Grant (Individual): \$135,000 (*NSERC Discovery Grant (Individual) is considered Canadian equivalent of NSF CAREER Award*)
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)

2014-24 University at Albany, State Grant: \$128,000
2008-14 University of Winnipeg (Multiple Grants): \$12,900

PUBLICATIONS

Journal articles: 48, Conference/workshop/symposium papers/posters: 98, Letters: 1, Book chapters: 5, Scholarly Books: 1, Edited books: 3, Guest-editorials: 2.

Research Citations:

- Google Scholar: Total citations 5050, h-index 30, i10-index 74.
- A single paper is cited 1478 times.

Peer-Reviewed Journal Articles

- [J48] P. Kumari, P. Choudhary, V. Kujur, P. K. Atrey, and Mukesh Saini. Concept drift challenge in multimedia anomaly detection: A case study with facial datasets. *Elsevier Signal Processing: Image Communication Journal*, Volume 123, 117100 (2024).
- [J47] S. Arora and P. K. Atrey. SecureC2Edit: A framework for secure collaborative and concurrent document editing. *IEEE Transactions on Dependable and Secure Computing (TDSC)*, Volume: 21, Issue: 4 (2024).
- [J46] D. Ramesh, R. Mishra, P. K. Atrey, D.R. Edla, S. Mishra, and L. Qi. Blockchain based efficient tamper-proof EHR storage for decentralized cloud-assisted storage. *Elsevier Alexandria Engineering Journal*, 68:205-226 (2023).
- [J45] O. Aranay and P. K. Atrey. Deep active genetic learning-based assessment of lakes' water quality using climate data. *IEEE Transactions on Sustainable Computing*, 7(4):851-863 (2022).
- [J44] F. Ding, G. Zhu, Y. Li, X. Zhang, P. K. Atrey, and S. Lyu. Anti-forensics for face swapping videos via adversarial training. *IEEE Transactions on Multimedia*. 24:3429-3441 (2021).
- [J43] P. K. Atrey, B. Trehana, and M. K. Saini. Watch Me from Distance (WMD): A privacy-preserving long-distance video surveillance system. *ACM Transactions on Multimedia Computing Communications and Applications*, Vol. 15, No. 2, Article No. 37 (2019).
- [J42] P. Singh and P. K. Atrey. Recovering tampered regions in encrypted video using POB number system. *Elsevier Signal Processing: Image Communication Journal*, 74:96-109 (2019).
- [J41] Q. Huang, V. K. Singh, and P. K. Atrey. On cyberbullying incidents and underlying online social relationships. *Springer Journal of Computational Social Science*, Volume 1, Issue 2, pp 241-260 (2018).

- [J40] G. Varshney, M. Misra, and P. K. Atrey. Secure authentication scheme to thwart RT MITM, CR MITM and malicious browser extension based phishing attacks. *Elsevier Journal of Information Security and Applications*, Vol. 42, pp 1-17 (2018).
- [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 (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 (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.*, 9:6266-628 (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 13237–13269 (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 6207–6235 (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 2249–2274 (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). **[Nominated for Best Paper Award]**
- [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). **[Nominated for Best Paper Award]**
- [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 10883–10921 (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 1459–1486 (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 219–240 (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 1051–1085 (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

- [C98] O. Kulkarni, A. Mishra, S. Arora, V. K. Singh, and P. K. Atrey. LivePics-24: A multi-person, multi-camera, multi-settings live photos dataset. *MIPR'24: IEEE International Conference on Multimedia Information Processing and Retrieval*, San Jose, CA, USA, August 2024.
- [C97] O. Kulkarni, T. Lloyd-Jones, M. Tran, G. Vincent Jr, V. K. Singh, and P. K. Atrey. Where you look matters in group photos: A demo of GARGI iOS app. *MIPR'24: IEEE International Conference on Multimedia Information Processing and Retrieval*, San Jose, CA, USA, August 2024.
- [C96] V. Patil, S. Rajkumar, and P. K. Atrey. GeoSecure-B: A method for secure bearing calculation. *MIPR'24: IEEE International Conference on Multimedia Information Processing and Retrieval*, San Jose, CA, USA, August 2024.
- [C95] O. Kulkarni, S. Arora, A. Mishra, V. K. Singh, and P. K. Atrey. A multi-stage bias Reduction framework for eye gaze detection. *MIPR'23: IEEE International Conference on Multimedia Information Processing and Retrieval*, Singapore, August 2023.
- [C94] Yue Zhou, Bing Fan, Feng Ding, and P. K. Atrey. Exposing deepfakes using dual-channel network with multi-axis attention and frequency analysis. *IH&MMSec'23: ACM Workshop on Information Hiding and Multimedia Security*, Chicago, IL, USA, June 2023.
- [C93] J. Alasadi, A. AlHilli, P. K. Atrey, and V. K. Singh. A generative approach to mitigate bias in face matching using learned latent structure. *IEEE International Conference on Big Multimedia (BigMM'2022)*, Naples, Italy, December 2022.
- [C92] O. Aranay and P. K. Atrey. Active genetic learning with evidential uncertainty for identifying mushroom toxicity. *The 1st IEEE International Workshop on Multimedia for Agriculture and Water Applications (MAWA) in conjunction with the 5th IEEE International Conference Multimedia Information Processing and Retrieval (MIPR'22)*, San Jose, USA, August 2022.
- [C91] O. Kulkarni, S. Arora, and P. K. Atrey. GARGI: Selecting gaze-aware representative group image from a live photo. *The 5th IEEE International Conference on Multimedia Information Processing and Retrieval (MIPR'22)*, San Jose, USA, August 2022.
- [C90] O. Kulkarni, V. Patil, V. K. Singh, and P. K. Atrey. Accuracy and fairness in pupil detection algorithm. *IEEE International Conference on Big Multimedia (BigMM'21)*, Taichung, Taiwan, November 2021.
- [C89] S. Arora and P. K. Atrey. Secure collaborative editing using secret sharing. *IEEE Workshop on Information Forensics and Security (WIFS'21)*, Montpellier, France, December 2021.
- [C88] V. Patil, S. Parikh, O. Kulkarni, K. Bhatia, and P. K. Atrey. GeoSecure-C: A method for secure GPS trajectory compression over cloud. *The ninth annual IEEE Conference on Communications and Network Security (CNS'21)*, Virtual, October 2021.
- [C87] G. Kodwani, S. Arora, and P. K. Atrey. On security of key derivation functions in password-based cryptography. *IEEE International Conference on Cyber Security and Resilience (CSR'21)*, Rhodes, Greece (Vitural), July 2021.

- [C86] G. Varshney, P. Iyer, M. Misra, and P. K. Atrey. Evading DoH via Live Memory Forensics for Phishing Detection and Content Filtering. *The 13th International Conference on COMMunication Systems & NETWORKS (COMSNETS'21) - Blockchain Workshop*, Bengaluru, India, January 2021.
- [C85] O. Kulkarni, V. Patil, S. Parikh, S. Arora, and P. K. Atrey. Can you all look here? Towards determining gaze uniformity in group images. *IEEE International Symposium on Multimedia (ISM'20)*, Tapei, Taiwan, December 2020.
- [C84] V. Patil and P. K. Atrey. GeoSecure-R: Secure computation of geographical distance using region-anonymized GPS data. *The Sixth IEEE International Conference on Multimedia Big Data (BigMM'2020)*, New Delhi, India, September 2020. **[Best Paper Award]**
- [C83] J. Alasadi, R. Arunachalam, and P. K. Atrey, and V. K. Singh. A fairness-aware fusion framework for multimodal cyberbullying detection. *The Sixth IEEE International Conference on Multimedia Big Data (BigMM'2020)*, New Delhi, India, September 2020.
- [C82] V. Patil, S. Parikh, and P. K. Atrey. GeoSecure-O: A method for secure distance calculation for travel mode detection using outsourced GPS trajectory data. *The Fifth IEEE International Conference on Multimedia Big Data (BigMM'2019)*, Singapore, September 2019.
- [C81] S. Parikh, S. Khedia, and P. K. Atrey. A Framework to detect fake tweet images on social media. *The Fifth IEEE International Conference on Multimedia Big Data (BigMM'2019)*, Singapore, September 2019.
- [C80] S. Parikh, V. Patil, R. Makawana, and P. K. Atrey. Towards impact scoring of fake news. *The 2nd IEEE Workshop on Fake Multimedia (FakeMM'19) with the IEEE International Conference on Multimedia Information Processing and Retrieval (MIPR'19)*, San Jose, CA, USA, March 2019.
- [C79] S. Parikh, V. Patil, and P. K. Atrey. On the origin, proliferation and tone of fake news. *The 2nd IEEE International Conference on Multimedia Information Processing and Retrieval (MIPR'19)*, San Jose, CA, USA, March 2019.
- [C78] M. Shah, M. Mohanty, and P. K. Atrey. SecureCSearch: Secure searching in PDF over untrusted cloud servers. *The 2nd IEEE International Conference on Multimedia Information Processing and Retrieval (MIPR'19)*, San Jose, CA, USA, March 2019.
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- [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.
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- [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**]
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- [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.
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- [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.
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- [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.
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- [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.
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- [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] 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).
- [B4] G. Varshney, M. Misra, and P. K. Atrey. Cyberattacks via Google Chrome browser extensions. In *World Scientific Reference on Innovation Volume 4: Innovation in Information Security*, Eds. S. Goel, Y. Hong, J. Giboney and P. K. Atrey (Chapter 9), World Scientific Press, pp 193-210, (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).

Scholarly Books

- [SB1] P. K. Atrey and K. Senevirathna. SecureCSocial: Secure cloud-based social network. World Scientific Series in Digital Forensics and Cybersecurity: Volume 1, August 2019.

Edited Books

- [E3] World Scientific Reference on Innovation Volume 4: Innovation in Information Security. World Scientific Press. S. Goel, Y. Hong, J. Giboney and P. K. Atrey (Eds.) (2018).
- [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

- [5] Sharmilee Rajkumar Rajan (PhD), TBD.
- [4] Irien Akter (PhD), TBD.

- [3] Noah Levine (UG), Recent advances in fully homomorphic encryption.
- [2] Athulya Matthew (MS), Bias in speech recognition.
- [1] Ahana Gandhi (High school intern), Photo forensics.

Past Students

University at Albany, SUNY

- [96] Omkar Kulkarni (PhD, 2024), Bias-aware gaze uniformity assessment in group images.
- [95] Thomas Llyod-Jones (UG, 2023-24), Gaze uniformity in group photos.
- [94] My Tran (UG, 2023-24), Gaze uniformity in group photos.
- [93] Gregory Vincent Jr. (UG, 2023-24), Gaze uniformity in group photos.
- [92] Rohan Dash (High school intern, 2024), Privacy-aware travel mode detection using GPS data.
- [91] Ayush Tripathi (High school intern, 2024), Machine learning for health.
- [90] Ivan Ramos (UG - UASRP intern, 2024), Advances in ransomware research.
- [89] Chandra Sekhar Reddy Kasireddy (MS, 2024), Hate tweet detection.
- [88] Aryan Mishra (High school intern, 2023-24) Computational photography.
- [87] Shashank Arora (PhD, 2022), SecureC2Edit: A framework for secure collaborative editing.
- [86] Oguz Aranay (PhD, 2022), Deep active genetic with evidential uncertainty for agriculture crops and water quality assessment.
- [85] Ashutosh Tiwari (UG - Research intern from Virginia Tech, 2022), A study of ransomware attacks.
- [84] Ani Utkin (MS, 2022), Secret sharing of Microsoft Word and Excel files.
- [83] David Chen (MS, 2021), Understanding lightweight features of tweets containing disinformation.
- [82] Gaurav Pandey (High school intern, 2021), Studying disinformation characteristics.
- [81] John Patrick (UG - UASRP intern, 2021), Ransomware attacks: current trends.
- [80] Ruthvik Arvapally (MS, 2021), Fake news detection mobile application.
- [79] Kalika Bhatia (High school intern, 2020), Secure GPS data simplification.
- [78] Mahi Tomar (High school intern, 2020), Machine learning for fake news detection.
- [77] Jeremiah Hsieh (MS, 2020), Vehicle speed detection using the onboard mounted cameras.
- [76] Bhargavi Kamble (MS, 2020), Detecting eye gaze of people in group photos.
- [75] Aaron Fensterer (UG, 2020), Academic data analysis.
- [74] Gaurav Kodwani (MS, 2019), On the security of password-based cryptography.
- [73] Madhuri Shashidhar (MS, 2019), P2P secure document editing framework.
- [72] Saurin Khedia (MS, 2019), Fake tweet detector.
- [71] Ravi Makawana (MS, 2019), Detecting fake content on Twitter.
- [70] Lakshya Srivastava (MS, 2019), Travel mode detection using GPS trajectory data.
- [69] Yan Hu (PhD, 2019), Efficient algorithms for mining healthcare data (Worked with me during the last 6 months after her thesis adviser moved to another university).
- [68] Kevin Tumwa (UG - UASRP intern, 2019), Secure GPS data compression.
- [67] Ashish Agarwala (MS, 2018), Secure data deduplication over the cloud.
- [66] Gaurav Varshney (PhD, 2018), Web phishing detection (Visiting Scholar from Indian Institute of Technology, Roorkee, India).
- [65] Vaikunth Patel (MS, 2018), Faculty profile mining.
- [64] Sumanlata Ghosh (MS, 2018), Secure cloud-based deduplication of text data
- [63] Sri Krishna Karthik Vellanki (MS, 2018), Spam email detection by data mining techniques.

- [62] Saurabh Kamath (MS, 2018), Students profile mining.
- [61] Ravi Patel (MS, 2018), SecureCGallery mobile app for secure storage of photos on multiple clouds.
- [60] Nilesh Chakraborty (MS, 2018), SecureCMail mobile app for secure emailing.
- [59] Manav Patel (MS, 2018), SecureCMerge mobile app for the secure merging of PDF documents.
- [58] Ketul Patel (MS, 2018), PassWala: A secure password manager.
- [57] Emre Ugurlu (MS, 2018), Secure travel mode detection using GPS trajectory data.
- [56] Anand Patel (MS, 2018), Crime data analysis using Twitter data.
- [55] Vinay Gadiraju (MS, 2018), Object superimposition in images.
- [54] Vignesh Manishankar (MS, 2018), Rotation of encrypted images over cloud.
- [53] Vidhyanathan Subramanian (MS, 2018), Security threats in Bluetooth low energy devices.
- [52] Akshay Chand Pasera (MS, 2018), A review of encrypted domain computing of GPS trajectory similarity.
- [51] Nikhil Gangrade (MS, 2018), A web crawler to extract students' records.
- [50] Manisha Sharma (MS, 2018), Crime report detection using Twitter data.
- [49] Vineesha Earle (MS, 2018), Fake smile detection using SVM classifier.
- [48] Sparsh Garg (MS, 2018), Vehicle detection and tracking in videos.
- [47] Sai Nandamuri (MS, 2018), Secure deduplication of PDF files over cloud.
- [46] Rahul Singh (MS, 2018), Bank loan fraud detection using blockchain.
- [45] Aditya Kiran Atchutanna (MS, 2018), An approach for secure cloud-based document editing.
- [44] Byron Remierz (MS, 2018), A tool to visualize personalized flight maps with pictures.
- [43] Chintan Dave (MS, 2018), Hate speech detection on Facebook.
- [42] Ravi Pilla (MS, 2018), Hate speech detection on Twitter.
- [41] Kartiki Patel (MS, 2018), People counting in surveillance video.
- [40] Jimit Patel (MS, 2018), Fake news detection on Twitter.
- [39] Madeeha Khan (UG, 2018), Searching keywords over encrypted audio data.
- [38] Avyul Dixit (High-school intern, 2017), A study of phishing attacks.
- [37] Priyanka Singh (Postdoc, 2017), Security and privacy in cloud-based systems.
- [36] Neha Sharma (Research Intern, 2017), Secure PDF merging.
- [35] Mahesh Mittal (MS, 2017), An application for GPS data processing.
- [34] Padmavathi Iyer (MS, 2017), Email spoofing detection using volatile memory forensics.
- [33] Meley Sennay Kifleyesus (UG, 2016), A web application for homomorphic secret sharing.
- [32] Ashok Chakravarthy (MS, 2016), Malicious browser extensions.
- [31] Ketan Munjal (MS, 2016), PDF metadata analysis.
- [30] Sneha Banala (MS, 2016), Secure online image editor.
- [29] Vimalkumar Chellem (MS, 2016), PDF secret sharing.
- [28] Shashank Arora (MS, 2016), Secure cloud-based document editing.
- [27] Amol Shete (MS, 2016), A mobile app for web phishing detection.
- [26] Aaron Champagne (MS, 2016), A study of secure pdf merging.
- [25] Lakshay Anand (UG, 2016), Secure online pdf merging.
- [24] Kaliel Williamson (UG, 2016), A secure emailing framework. [Based on this work, this student received an IBM Excellence in Innovation and Discovery Award from UAlbany]
- [23] Anthony Paradiso (MS, 2015), Secure cloud-based JPEG image scaling and cropping.
- [22] Odd-Arild Kristensen (MS, 2015), Secure cloud-based video editing.

[21] Raghav Niladhuri (MS, 2015), Secure email architecture.

Other past students: Luan Xu (MS, 2017), Gokul Ambigapathy (MS, 2017), Vishal Agarwal (MS, 2017), Harish Sheelamanthula (MS, 2016), Shibani Prabhakar (MS, 2015), Ritika Singh (MS, 2015), Laura Stalker (MS, 2015), Jeel Patel (MS, 2014).

University of Winnipeg

[20] M. Abukari Yakubu (MS, 2015), Secure Cloud-based audio storage and processing.

[19] Bakul Trehan (MS, 2015), A framework for anonymous video surveillance.

[18] Ashish Tripathi (MS, 2015), Personality assessment and its role in persuasion in social networks.

[17] Qianjia Huang (MS, 2015), Cyber bullying detection using social networks features.

[16] Shally Bhardwaj (MS, 2014), Personality assessment using multiple online social networks. [A student at the University of Ottawa]

[15] Kasun Senevirathna (MS, 2014), A secure and privacy aware architecture for online social networking.

[14] Ankita Lathey (MS, 2014), Secure image enhancement over cloud.

[13] Shreelatha Bhadravati (MS, 2014), Scalable secret sharing of compressed multimedia (Co-supervised with Prof. M. Khabbazi)

[12] Nishant Joshi D (MS, 2014), Secure routing in wireless sensor networks. (Visiting Scholar from National Institute of Technology, Surathkal, India)

[11] Himanshu Agarwal (PhD, 2013), Image watermarking in real-oriented transform domain. (Visiting Scholar from Indian Institute of Technology, Roorkee, India)

[10] Taylor Budzan (UG, 2013), PDF protection using secret sharing.

[9] Manoranjan Mohanty*** (PhD, 2012), Secure medical data visualization over cloud. (Visiting Scholar from National University of Singapore, Singapore)

[8] Robert Bisewski (MS, 2012), Modeling, simulation and analysis of a weaponry-equipped camera surveillance system.

[7] Michael Moski (UG, 2012), An intuitive touch screen interface for car remote control.

[6] Chidansh Bhatt (PhD, 2011), Multimedia data mining. (Visiting Scholar from National University of Singapore, Singapore)

[5] Khaled Amriki (MS, 2011), A scientific approach for the placement of surveillance cameras on a bus.

[4] Saeed Alharthi (MS, 2011), Improved methods for secret image/video sharing.

[3] Kevin Hildebrand (UG, 2011), Text secret sharing.

[2] Mukesh Saini*** (PhD, 2010), Privacy in multimedia surveillance. (Visiting Scholar from National University of Singapore, Singapore)

[1] Spencer Guest (UG, 2009), PEER: An effective and efficient personal website organizer.

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

TEACHING

Courses Taught

- **@University at Albany, SUNY, USA (2014-present)**
 - ICSI/ICEN-201 Introduction to Computer Science (Spring 2017, Fall 2017)
 - ICSI-499 Capstone Project in Computer Science (Spring 2020, Spring 2021, Fall 2021, Spring 2022, Fall 2022, Spring 2023, Fall 2023, Spring 2024)
 - ICSI-526-426 Cryptography (Spring 2015, Spring 2016, Spring 2017, Spring 2018, Spring 2019, Spring 2020, Spring 2021, Spring 2023, Spring 2024)
 - ICSI-533/433 Multimedia Computing (Fall 2015, Fall 2016, Fall 2018, Fall 2019, Fall 2021)
 - 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-533/433 Theory and Practice of Multimedia Computing (Graduate and senior undergraduate level)
 - ICSI-499 Capstone Project in Computer Science
- **@ 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, IEEE Trans. on Multimedia (TMM) (2019-present)
- 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)
- Vice Chair (America), IEEE MMTC Communications - Review (2018-present)
- Co-Director, IEEE MMTC Communications - Review (2016-2018)
- Editor, IEEE MMTC Communications - Review (2012-16)
- Editor, SIGMM Education Column (2011-2015)

Keynote Talks

- [K8] “SecureCSuite: Secure computation over untrusted cloud servers”, at the ICRTMA-GPN-2020, Delhi, India (over zoom) (7/2020)
- [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

- [I44] “Secure Multimedia Computing Using Homomorphic Encryption” at Jaypee Institute of Information Technology, Noida, India (4/2024).
- [I43] “Multimodal AI Meets Security, Privacy, Trust, and Fairness” at UAlbany-CNSE Pecha Kucha Event at CNSE, UAlbany (1/2024).
- [I42] “SecureCSuite: Secure Computation over Untrusted Third-party Servers” at the Center for Design and New Media, IIIT Delhi (10/2023).
- [I41] “SecureCSuite: Secure Computation over Untrusted Third-party Servers” at the Advanced Research and Technology Innovation Center (ARTIC), College of Design and Engineering, National University of Singapore (8/2023).
- [I40] “Media-rich Fake News Detection” at the SUNY-IBM AI Symposium (11/2022).

- [I39] “Encrypted Multimedia Processing” at the AICTE Training and Learning (ATAL) Academy Online Faculty Development Programme (FDP) on the topic “Recent Trends and Challenges in Image Processing and Computer Vision” (over Zoom)(12/2021).
- [I38] “The Future of AI: Unique Challenges in the COVID-19 Era”, at the Maharishi University of Information Technology, India (over Zoom) (05/2020).
- [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] “Don’t 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] “People’s 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 the 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

- [P31] “LivePics-24: A multi-person, multi-camera, multi-settings live photos dataset” at the MIPR’24: IEEE International Conference on Multimedia Information Processing and Retrieval, San Jose, CA, USA (08/2024)
- [P30] “A multi-stage bias reduction framework for eye gaze detection” at the MIPR’23: IEEE International Conference on Multimedia Information Processing and Retrieval, Singapore (09/2023)
- [P29] “GeoSecure-R: Secure computation of geographical distance using region-anonymized GPS data”, at the Sixth IEEE International Conference on Multimedia Big Data (BigMM’2020), New Delhi, India, [Best Paper Award] (09/2020)
- [P28] “SecureCMerge: Secure PDF merging over untrusted servers”, at the 1st IEEE International Conference on Multimedia Information Processing and Retrieval (MIPR’18), Miami, FL, USA. (04/2018)
- [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 (ACMMM’15), 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

- [SC19] Session on “Closing Remarks & Best Paper Award” at the IEEE Int. Conf. on Multimedia Information Processing and Retrieval (MIPR), Singapore (08/2023)
- [SC18] Session on “Multimedia Retrieval and Knowledge Distillation” at the IEEE Int. Conf. on Multimedia Information Processing and Retrieval (MIPR), Singapore (08/2023)
- [SC17] Session on “Data and Application Security” at the IEEE International Conference on Communications and Network Security (CNS), Virtual (10/2021)
- [SC16] Keynote and oral sessions at the IEEE International Workshop on Fake Multimedia, Tokyo, Japan (Virtual) (09/2021)
- [SC15] Panel and oral sessions at the IEEE International Workshop on Media-rich Fake News, Virtual. (07/2020)
- [SC14] Keynote and oral sessions at the IEEE International Workshop on Fake Multimedia, Miami, FL, USA. (04/2018)
- [SC13] Session on “Machine Learning & System Safety, Security and Reliability” at the IEEE International Conference on Systems, Man, and Cybernetics, Banff, AB, 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

- [W12] The 3rd IEEE Int. Workshop on Fake Multimedia, September 2021, Tokyo, Japan (Virtual).
- [W11] IEEE Int. Workshop on Media-rich Fake News, July 2020, London, UK (Virtual).

- [W10] The 2nd IEEE Int. Workshop on Fake Multimedia, Apr. 2019, San Jose, CA, USA.
- [W9] The 1st IEEE Int. Workshop on Fake Multimedia, Apr. 2018, Miami, FL, USA.
- [W8] The 2nd IEEE Int. Workshop on Privacy Issues in Multimedia, Jul. 2018, San Diego, CA, USA.
- [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

2024

- Area Chair, MM'24: ACM International Conference on Multimedia, Melbourne, Australia, October 2024.
- Workshop Co-chair, MIPR'24: IEEE International Conference on Multimedia Information Processing and Retrieval, San Jose, CA, USA, August 2024.
- Workshop Co-chair, AVSS'24: IEEE International Conference on Advanced Video and Signal-Based Surveillance, Niagara Falls, Canada, July 2024.

2023

- Program Co-chair, MM'23: ACM International Conference on Multimedia, Ottawa, Canada, October 2023.
- Program Co-chair, MIPR'23: The 6th IEEE International Conference on Multimedia Information Processing and Retrieval, Singapore, August 2023.
- Special Session Co-chair, ICME'23: IEEE International Conference on Multimedia and Expo, Brisbane, Australia, July 2023.
- TPC Member, ICASSP'22: IEEE International Conference on Acoustics, Speech, and Signal Processing, Rhodes Island, Greece, June 2023.
- TPC Member, ICMR'23: ACM International Conference on Multimedia Retrieval, Thessaloniki, Greece, June 2023.
- Advisory Board Member, ICA'23: International Conference on Agriculture-Centric Computation, Ropar, India, May 2023.

2022

- TPC Member, BigMM'22: IEEE International Conference on Big Multimedia, Naples, Italy, December 2022.
- Area Chair, WIFS'22: IEEE International Workshop on Information Forensics and Security, Shanghai, China, December 2022.
- TPC Member, NarSUM'22: ACM MM 2022 Workshop on User-Centric Narrative Summarization of Long Videos, Lisbon, Portugal, October 2022.
- TPC Member, MM'22: ACM International Conference on Multimedia, Lisbon, Portugal, October 2022.
- TPC Member, MIPR'22: The 5th IEEE International Conference on Multimedia Information Processing and Retrieval, San Jose (Virtual), CA, USA, August 2022.

- Workshop Co-chair, MIPR'22: The 5th IEEE International Conference on Multimedia Information Processing and Retrieval, San Jose (Virtual), CA, USA, August 2022.
- TPC Member, ICASSP'22: IEEE International Conference on Acoustics, Speech, and Signal Processing, Singapore, May 2022.
- Area Chair, WIFS'22: IEEE Workshop on Information Forensics and Security, Shanghai, China, December 2022.

2021

- Area Chair, ACM International Conference on Multimedia (MM'21), Chengdu (Virtual), China, October 2021.
- (Lead) Workshop Co-Organizer, The 3rd IEEE Workshop on Fake Multimedia (FakeMM'21) with MIPR'21, Tokyo (Virtual), Japan, August 2021.
- Workshop Co-chair, The 3rd IEEE International Conference on Multimedia Information Processing and Retrieval (MIPR'21), Tokyo (Virtual), Japan, August 2021.
- TPC Member, IEEE International Workshop on Information Forensics and Security (WIFS'21), Montpellier (Hybrid), France, December, 2021
- TPC Member, International Conference on Digital Forensics & Cyber Crime (ICDF2C'21), Singapore. December, 2021
- TPC Member, The 16th Annual Symposium on Information Assurance (ASIA'21), Albany, NY, USA. June, 2021.
- TPC Member, The 28th IEEE International Conference on Image Processing (ICIP'21), Anchorage, AK, USA, September, 2021.

2020

- TPC Member, The 19th International Workshop on Digital-forensics and Watermarking (IWDW'20), November 2020, Melbourne, Australia.
- TPC Member, The 11th EAI International Conference on Digital Forensics & Cyber Crime (ICDF2C'20), October 2020, Boston, MA, USA.
- TPC Member, The Annual ACM International Conference on Multimedia Retrieval (ICMR'20), October 2020, Dublin, Ireland.
- Publication Co-Chair, The 28th ACM International Conference on Multimedia (MM'20), October 2020, Seattle, WA, USA.
- Grand Challenge Co-Organizer (SpotFake), The 6th IEEE International Conference on Multimedia Big Data (BigMM'20), September 2020, Delhi, India.
- Workshop and Symposium Co-Chair, The Fourth International Conference on Computing and Network Communications (CoCoNet'20), October 2020, Chennai, India.
- TPC Member, The 3rd IEEE International Conference on Multimedia Information Processing and Retrieval (MIPR'20), August 2020, Shenzhen, Guangdong, China.
- Area Chair (Multimedia security, privacy and forensics), IEEE International Conference on Multimedia and Expo (ICME'20), July 2020, London, UK.
- Lead Workshop Organizer, IEEE ICME Workshop on Media-rich Fake News (MedFake'20), July 2020, London, UK.

2019

- Special Session Co-chair, IEEE International Conference on Smart Multimedia (ICSM'19), December 2019, San Diego, CA, USA.
- TPC Member, IEEE International Workshop on Information Forensics and Security (WIFS'19), December 2019, Delft, The Netherlands.
- TPC Member, 21st IEEE International Symposium on Multimedia (ISM'19), December 2019, San Diego, CA, USA.
- TPC Member, Seventh International Symposium on Security in Computing and Communications (SSCC'19), December 2019, Trivandrum, Kerala, India.
- Member, Advisory Committee, The International Conference on Advances in Computing, Communications and Informatics (ICACCI'19), December 2019, Trivandrum, Kerala, India.
- Publication Co-Chair, The 27th ACM International Conference on Multimedia (MM'19), October 2019, Nice, France.
- TPC Member (System – Systems and middleware), The 27th ACM International Conference on Multimedia (MM'19), October 2019, Nice, France.
- TPC Member, The IEEE International Conference on Advanced Video and Signal-based Surveillance (AVSS'19), September 2019, Taipei, Taiwan.
- TPC Member, The 2nd International Workshop on Recent Advances in Digital Security: Biomet-

rics and Forensics (BioFor'19), September 2019, Trento, Italy.

- Area Chair, IEEE International Conference on Multimedia and Expo (ICME'19), July 2019, Shanghai, China.
- TPC Member, The 14th Annual Symposium on Information Assurance (ASIA'19), June 2019, Albany, NY, USA.
- TPC Member, ACM International Conference on Multimedia Retrieval (ICMR'19), June 2019, Ottawa, ON, Canada.
- Workshop Co-Chair, The 2nd IEEE International Conference on Multimedia Information Processing and Retrieval (MIPR'19), March 2019, San Jose, CA, USA.
- Area Chair, The 2nd IEEE International Conference on Multimedia Information Processing and Retrieval (MIPR'19), March 2019, San Jose, CA, USA.
- Lead Workshop Organizer, The 2nd IEEE International Workshop on "Fake Multimedia" (FakeMM'19) with MIPR conference, March 2019, San Jose, CA, USA.
- Symposium Co-Chair, Multimedia Computing and Communications Symposium, IEEE ICNC 2019 (MCC'19), February 2019, Honolulu, Hawaii, USA.

2018

- Workshop Co-Chair, The IEEE International Conference on Advanced Video and Signal-based Surveillance (AVSS'18), November 2018, Auckland, New Zealand.
- Area Chair (Multimedia Security and Forensics), The IEEE International Conference on Multimedia and Expo (ICME'18), July 2018, San Diego, CA, USA.
- Lead Workshop Organizer, The 2nd IEEE International Workshop on "Privacy Issues in Multimedia" (PIM'18) with ICME, July 2018, San Diego, CA, USA.
- Lead Workshop Organizer, The 1st IEEE International Workshop on "Fake Multimedia" (FakeMM'18) with MIPR, April 2018, Miami, FL, USA.
- Review Chair, The 12th Annual Symposium on Information Assurance (ASIA'18), June 2018, Albany, NY, USA.
- Area Chair, Int. Conf. on Computer Vision and Image Processing (CVIP'18), September 2018, Jabalpur, India.
- Area Chair, The 1st IEEE International Conference on Multimedia Information Processing and Retrieval (MIPR'18), April 2018, Miami, FL, USA.
- International Advisory Board Member, International Conference on Signal Processing, Communication and Embedded Systems (SICES'18), November 2018, Delhi, India.
- Publicity Co-chair, Int. Conf. on SMART MULTIMEDIA, August 2018, Toulon, Cote D'Azur, France.

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 (WC-NWASA'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 (VGCMC 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, Tampere, 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, Tampere, 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, 2020, 2022)
 - 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) - Research Grants Council (RGC) of Hong Kong (2022) - Sao Paulo Research Foundation – FAPESP (2021)
- 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 Dependable and Secure Computing (TDSC)
 - 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)
 - AKCE International Journal of Graphs and Combinatorics
- Reviewer for Conferences/Workshops
 - ACMMM, IEEE SMC, IEEE ICME, IEEE ISM, IEEE MIPR, IEEE ICASSP, IEEE ICIP
- Reviewer for Theses
 - Reviewed 32 theses (16 MS and 16 PhD) from the University of Winnipeg; University of Manitoba; Laurentian University; Indian Institute of Technology, Roorkee; Indian Institute of Technology, Ropar; Indian Institute of Technology, Gandhi Nagar; Indian Institute of Technology, BHU; 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 thesis 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)**
 - Department level:*
 - Undergraduate Program Director, Computer Science (2015-present)
 - Chair, Undergraduate Curriculum Committee (2015-present)
 - Chair, Graduate Placement Exam Committee (2018-2020)
 - Member, Discrete Math Exam Committee (2016-2021)
 - Chair, Adhoc Tenure and Promotion Committee (2021-2022)
 - Computer Science Colloquium Chair (2014-2018)
 - College level:*
 - Member, CEAS Curriculum Committee (2016-present)
 - University level:*
 - Member, CPCA (2019-21)

- Member, UAlbany Graduate Studies Council (2015-17)
- Member, UAlbany Senate (2015-17, 2023)

- **@ 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

- Board Member, Hudson Valley Community College (HVCC). Appointed. (April 25, 2023 - present)
I was invited to serve on the advisory board of HVCC.
- Faculty Advisor, Indian Student Organization (ISO). Appointed. (August 1, 2017 - present)
I am serving as a faculty advisor to ISO, which is a university-level organization of students from the Indian subcontinent. ISO brings to the university, a diverse and vibrant culture from the Indian subcontinent and enhances the Diversity and Inclusion mission of the university.
- Judge, Upstate New York Junior Science and Humanities Symposium. Appointed. (March 9, 2023)
I was invited to judge a session of posters at the Upstate New York Junior Science and Humanities Symposium held in UAlbany on March 9, 2023.
- 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 the 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