

Curriculum Vitae

Amit K. Roy-Chowdhury

Professor, Dept. of Electrical and Computer Engineering
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Work Experience

University of California, Riverside: Dept. of Electrical and Computer Engineering
Professor, 2013-...
Associate Professor, 2009-2013.
Assistant Professor, 2004-2009.
Cooperating Faculty, Computer Science and Engineering.

University of Maryland, College Park: Research Associate, Center for Automation Research, 2003.

University of Maryland, College Park: Research Assistant, Dept. of Electrical and Computer Engineering/Center for Automation Research, 1998-2002.

HRL Laboratories: Summer Research Internship, 2000.

NEC Research Institute: Summer Research Internship, 1999.

Motorola India Electronics Ltd.: Software Development Engineer, 1997-1998.

Education

Doctor of Philosophy, 2002: Dept. of Electrical and Computer Engineering, University of Maryland, College Park.
Thesis Title: Statistical Analysis of 3D Modeling from Monocular Video Streams.

Master of Engineering, 1997: Systems Science and Automation, Indian Institute of Science, Bangalore, India.

Bachelor of Engineering, 1995: Electrical Engineering, Jadavpur University, Calcutta, India.

Research Interests

My broad research interests are in image and video analysis, pattern recognition, and statistical signal processing. A substantial portion of the research thrust in our group currently is on statistical learning and weakly supervised approaches for visual data analysis. Applications domains include surveillance, environmental monitoring, and bio-image analysis.

Extramural Funding

Current Projects

- “Autonomous Multi-Robot Visual Monitoring for Urban, Agricultural, and Natural Resource Management”, National Science Foundation, Smart and Autonomous Systems, 2017-2021. (PI)
- “Extracting Time-Critical Situational Awareness from Resource Constrained Networks”, National Science Foundation, Cyber-Physical Systems, 2015-2018. (PI)
- “Integrated Statistical and Semantic Analysis for Image Forensics”, DARPA, 2016-18. (PI at UCR, part of team with Mayachitra Inc.)
- “Activity Forecasting in Continuous Natural Videos”, National Geospatial Agency, 2015-2017. (PI)
- “Multi-robot Human Coordination for Visual Scene Understanding”, National Science Foundation, National Robotics Initiative, 2013-2018. (PI)
- “Active Learning Based Scalable Representations for Event Understanding in Video”, Office of Naval Research, 2015-2018. (PI)
- “Joint Modeling and Querying of Social Media and Video Data”, National Science Foundation, 2017-19. (Co-PI)
- “LIMPID: Large-scale Image Processing Infrastructure Development”, National Science Foundation, 2017-2022. (Co-PI)

Completed Projects

- “Distributed Sensing, Learning and Control in Dynamic Environments”, National Science Foundation, Cyber-Physical Systems, 2013-2016. (Co-PI)
- “A Heterogeneous Parallel Computing Database”, Air Force Office of Scientific Research DURIP, 2015-16. (Co-PI)
- “Continuous Learning for Unified Segmentation, Grouping and Recognition”, Office of Naval Research, 2012-15. (Co-PI)
- “Spatiotemporal Investigative Exploration of Large-Scale Social Networking Data”, IARPA, 2014-2015.
- “FACES: Faces, Art and Computerized Evaluation Systems”, National Endowment for the Humanities, 2012-14.

- “Wide-Area Cooperative Biometric/Tagging, Tracking and Locating in a Multimodal Sensor Network”, Office of Naval Research, Information Systems Research Thrust Area, 2008-2014.
- “Leveraging Online Social Networks for Early Detection of Agricultural Bioterrorism”, DTRA, 2013-2014.
- “Distributed Dynamic Scene Analysis in a Self-Configuring Multimodal Sensor Network”, Office of Naval Research, Mathematics, Computers and Information Research Division, 2009-2013.
- “Analysis of Complex Behaviors in Video”, DARPA (sub to Mayachitra, Inc.), 2008 - 2013.
- “Integrating Illumination, Motion and Shape Models for Video Analysis”, NSF, 2007-2013.
- “An Intelligent Network of Wireless Videos for Dynamic Scene Analysis”, National Science Foundation, Power, Controls and Adaptive Networks, 2006-2011.
- “RI: Medium: Integrated Analysis and Synthesis for Data Mining in a Video Network”, National Science Foundation, 2009-2013.
- “Aware Building”, Office of Naval Research, Senior Personnel, 2009-2013.
- “Scene Activity Analysis in a Large Video Network”, Army Research Office, Computer and Information Sciences, 2007-2011.
- “Aerial Video Analysis and Communication Laboratory”, Office of Naval Research, Defense University Research Instrumentation Program, 2010-2012.
- “Activity Recognition Integrated With Event Search”, DARPA Video and Image Retrieval and Analysis Tool Program, 2008-2012 (PI at UCR).
- “III-CXT-Large: Collaborative Research: Interactive and intelligent searching of biological images by query and network navigation with learning capabilities”, National Science Foundation, 2008-2011.
- “Outdoor Video Sensor Network Laboratory”, National Science Foundation, Computational Research Infrastructure, 2006-2009.
- “Imaging and Non-Imaging Sensor Network for Urban Disaster Management”, National Science Foundation, Computational Research Infrastructure, 2006-2009.
- “A Testbed for Robust Multimodal Sensor Networks”, Office of Naval Research, Defense University Research Instrumentation Program, 2007-2009.
- “Activity Recognition from Video”, Lockheed Martin, 2008-2009.
- “Advanced Data Analysis in Video Networks”, CISCO and UC Micro, 2007-2009.
- “Non-rigid Object Registration”, Euclid Discoveries, 2006-2008.

Professional Service

- Associate Editor IEEE Trans. on Image Processing, 2012-.
- Associate Editor Computer Vision and Image Understanding, 2014-.
- Associate Editor IEEE Trans. on Circuits and Systems in Video Technology, 2016-.
- Member IEEE Control Systems Society Letters Steering Committee (representative of Signal Processing Society).
- Area Chair for CVPR 2017, ICCV 2017.
- Section Editor Video Processing, Electronic Reference on Signal Processing, Elsevier, 2009-2012, 2015-17.
- Associate Editor IEEE Trans. on Cybernetics, 2012-2014.
- Guest Editor, IEEE Computer, Special Issue on Camera Networks, 2013-14.
- Guest Editor, IEEE Journal on Selected Topics in Signal Processing, Special Issue on Situational Awareness from Networked Sensors and Social Media, 2013-14.
- Associate Editor, Machine Vision and Applications, Springer, 2009-2013.
- Proposal review panels of various Federal agencies, e.g., NSF, DHS, DoD, and European and Canadian agencies.
- Chair, 1st IEEE Workshop on Camera Networks (in conjunction with CVPR 2010).
- Chair of IEEE Workshop on Camera Networks and Wide Area Scene Analysis, 2011, 2012.
- Co-organizer for ICPR 2010 Semantic Description of Human Activities (with M. Ryoo and J. K. Aggarwal).
- Co-Editor of Distributed Video Sensor Networks, Springer, 2010.
- Guest Editor, Special Issue on Video-Based Modeling and Recognition of Human Motion, EURASIP Journal on Image and Video Processing.
- Demos Chair for IEEE Conf. on Computer Vision and Pattern Recognition, 2008.
- Organizer of ICIP Special Session on Landmark Shape Sequence Analysis, 2008.
- Registrations Chair for IEEE Intl. Conf. on Image Processing, 2008.
- Reviewer for all major journals and conferences in computer vision, image processing, and signal processing.

University Service

- Vice-Chair, ECE Department, 2017-
- Academic Senate Graduate Council, 2014-, Vice-Chair 2016-17.
- UCR Academic Senate Committee on Research, 2012-2014, 2017-
- Bourns College Executive Committee, 2014-
- Faculty Search Chair, 2014-15, 2015-16.
- Dept. Faculty Search Committee, 2012-2016
- Dept. ABET Coordinator, 2009-2013
- UCR Academic Senate Committee on Faculty Welfare, 2009-2012
- Member, Undergraduate and Graduate Committees, EE Dept., University of California, Riverside

Teaching

- Probability, Random Variables and Processes in Electrical Engineering (undergraduate required course)
- Stochastic Processes (ECE basic graduate course)
- State and Parameter Estimation (ECE basic graduate course)
- Advanced Digital Image Processing (advanced graduate course)
- Advanced Computer Vision (advanced graduate course)
- Current Topics in Computer Vision and Pattern Recognition (advanced graduate course)

Students

Former Students and Research Collaborators

- Mahmudul Hasan, PhD, 2016, Currently at Comcast Labs
Thesis: Online Activity Understanding and Labeling in Natural Videos
- Abir Das, PhD, 2015, Currently postdoc at Boston University
Thesis: Active Learning in Multi-Camera Networks, With Applications in Person Re-Identification
- Shu Zhang, PhD, 2015, Currently at Sony Research
Thesis: Wide-area Video Understanding, with applications on Tracking, Video Summarization and Algorithm Co-Design
- Ramya Srinivasan, PhD, 2015, Currently at Fujitsu Research Labs
Thesis: Investigating the Role of Saliency for Face Recognition
- Yingying Zhu, PhD 2014, Currently at Google, USA
Thesis: Towards Sparse Modeling of Multi-Object Interactions in Video

- Anirban Chakraborty, PhD, 2014, Currently Asst. Prof., Indian Institute of Science, Bangalore
Thesis: Exploring Contextual Relationships in Video Analysis: Applications in Camera Networks, Bioimage Analysis and Activity Forecasting
- Nandita Nayak, PhD, 2014, Currently at Minolta Labs
Thesis: Graphical Models for Wide-Area Activity Analysis in Continuous Videos
- Akshay Morye, PhD, 2013 (co-advised with J. A. Farrell), Currently at Oxford University
Thesis: Distributed Bayesian Visual Sensing on Intelligent Camera Networks
- Chong Ding, PhD, 2013, Currently at HRL Labs
Thesis: Collaborative Sensing in PTZ Camera Networks
- Tashrif Ahmed Kamal, PhD, 2013, currently at Apple Inc., USA
Thesis: Distributed Estimation in Vision Networks
- Min Liu, PhD, 2012, currently Associate Prof. at Hunan University, China
Thesis: Feature Extraction in Volumetric Bioimages
- Antony Lam, PhD, 2010 (co-advised with Prof. C. Shelton), currently Asst. Prof. at Saitama University, Japan.
Thesis: Learning Ranking Functions for Video Search on the Web
- Rick Sethi, PhD, 2009, currently Asst. Prof. at Fitchburg State University, USA.
Thesis: A Physics-Based Neurobiologically-Inspired Stochastic Framework for Activity Recognition
- Bi Song, PhD, 2009, currently at Sony Research, USA.
Thesis: Scene Analysis, Control and Communication in Distributed Camera Networks
- Yilei Xu, PhD, 2008, currently at Here Inc., USA.
Thesis: A Theoretical Analysis of Image Appearance Models With Applications in Face Recognition
- Niki Martinel, Visitor, University of Udine, Italy.
- Amran Bhuiyan, Istituto Italiano di Tecnologia, Italy.
- Utkarsh Gaur, MS, 2010.
- Ting Yeuh Jeng, MS, 2009.
- Cristian Soto, MS, 2008.
- Luis Gonzales-Argueta, MS, 2009.

Publications

Books and Edited Books

- “Camera Networks - The Acquisition and Analysis of Videos Over Wide Areas”, A. Roy-Chowdhury, B. Song, Synthesis Lectures in Computer Vision, Morgan and Claypool Publishers, 2012.
- “Distributed Video Sensor Networks”, Eds: B. Bhanu, C. Ravishankar, A. Roy-Chowdhury, H. Aghajan, D. Terzopoulos, Springer, 2010.
- “Recognition of Humans and Their Activities From Video” R. Chellappa, A. Roy-Chowdhury, S. Zhou, in Image, Video and Multimedia Processing, (Ed. Al Bovik). Morgan and Claypool Publishers, 2005.

Journal Articles

1. “Diversity-aware Multi-Video Summarization”, R. Panda, N. C. Mithun, A. Roy-Chowdhury, *IEEE Trans. on Image Processing*, 2017.
2. “Multi-View Surveillance Video Summarization via Joint Embedding and Sparse Optimization”, R. Panda, A. Roy-Chowdhury, *IEEE Trans. on Multimedia*, 2017.
3. “Managing Redundant Content in Bandwidth Constrained Networks”, T. Dao, A. Roy-Chowdhury, H. Madhyastha, S. Krishnamurthy, T. LaPorta, *IEEE/ACM Trans. on Networking*, 2016.
4. “Network Consistent Data Association”, A. Chakraborty, A. Das, A. Roy-Chowdhury, *IEEE Trans. on Pattern Analysis and Machine Intelligence*, 2016.
5. “Distributed Multi-Target Tracking and Data Association in Vision Networks”, A. T. Kamal, J. H. Bappy, J. A. Farrell, A. Roy-Chowdhury, *IEEE Trans. on Pattern Analysis and Machine Intelligence*, 2016.
6. “Context-Aware Video Summarization”, S. Zhang, Y. Zhu, A. Roy-Chowdhury, *IEEE Trans. on Image Processing*, 2016.
7. “Opportunistic Image Acquisition of Individual and Group Activities in a Distributed Camera Network”, C. Ding, J. H. Bappy, J. A. Farrell, A. Roy-Chowdhury, *IEEE Trans. on Circuits and Systems for Video Technology*, 2016.
8. “Optimal Landmark Selection for Registration of 4D Confocal Image Stacks in Arabidopsis”, K. Mkrtchyan, A. Chakraborty, A. Roy-Chowdhury, *IEEE/ACM Transactions on Computational Biology and Bioinformatics*”, 2016.
9. “A Continuous Learning Framework for Activity Recognition Using Deep Hybrid Feature Models”, M. Hasan, A. Roy-Chowdhury, *IEEE Trans. on Multimedia*”, November 2015.
10. “Incremental learning of human activity models from videos”, M. Hasan, A. Roy-Chowdhury, *Computer Vision and Image Understanding*”, 2015.
11. “Re-Identification in the Function Space of Feature Warps”, A. Das, N. Martinel, C. Micheloni, A. Roy-Chowdhury, *IEEE Trans. on Pattern Analysis and Machine Intelligence*”, August 2015.

12. "Context-Aware Activity Modeling using Hierarchical Conditional Random Fields", Y. Zhu, N. Nayak, A. Roy-Chowdhury, *IEEE Trans. on Pattern Analysis and Machine Intelligence*, July 2015.
13. "Hierarchical Graphical Models for Simultaneous Tracking and Recognition in Wide-Area Scenes", N. Nayak, Y. Zhu, A. Roy-Chowdhury, *IEEE Trans. on Image Processing*, July 2015.
14. "Computerized Face Recognition in Renaissance Portrait Art", R. Srinivasan, C. Rudolph, A. Roy-Chowdhury, *IEEE Signal Processing Magazine*, July 2015.
15. "Tracking multiple interacting targets in a camera network", S. Zhang, Y. Zhu, A. Roy-Chowdhury, *Computer Vision and Image Understanding*, 2015.
16. "Context Aware Spatio-temporal Cell Tracking In Densely Packed Multilayer Tissues", *Medical Image Analysis*, January 2015.
17. "Evaluation and Acceleration of High-Throughput Fixed-Point Object Detection on FPGAs", X. Ma, W. Najjar, A. Roy-Chowdhury, *IEEE Trans. on Circuits and Systems in Video Technology*, June 2015.
18. "Distributed Constrained Optimization for Bayesian Opportunistic Visual Sensing", A. Morye, C. Ding, A. Roy-Chowdhury, J. A. Farrell, *IEEE Trans. on Control Systems Technology*, 2014.
19. "Information Weighted Consensus Filters and their Application in Distributed Camera Networks", A. Kamal, J. A. Farrell, A. Roy-Chowdhury, *IEEE Trans. on Automatic Control*, 2013.
20. "Exploiting Spatio-Temporal Scene Structure for Wide-Area Activity Analysis in Unconstrained Environments", N. Nayak, Y. Zhu, A. Roy-Chowdhury, *IEEE Trans. on Information Forensics and Security*, 2013.
21. "Modeling Multi-object Interactions using String of Feature Graphs", Y. Zhu, N. Nayak, U. Gaur, B. Song, A. Roy-Chowdhury, *Computer Vision and Image Understanding*, 2013.
22. "Adaptive Geometric Tessellation For 3D Reconstruction of Anisotropically Developing Cells In Multilayer Tissues From Sparse Volumetric Microscopy Images", A. Chakraborty, M. Perales, G. V. Reddy, A. Roy-Chowdhury, *PLOS One*, 2013.
23. "Context-Aware Activity Recognition and Anomaly Detection in Video", Y. Zhu, N. Nayak, A. Roy-Chowdhury, *IEEE Journal on Selected Topics in Signal Processing, Special Issue on Anomalous Pattern Discovery*, Feb. 2013.
24. "Quantitative Analysis of Live-Cell Growth at the Shoot Apex of *Arabidopsis thaliana*: Algorithms for Feature Measurement and Temporal alignment", M. Tataw, V. Reddy, E. Keogh, A. Roy-Chowdhury, *IEEE/ACM Trans. on Computational Biology and Biomedicine*, 2013.
25. "Vector Field Analysis for Multi-Object Behavior Modeling", N. Nayak, Y. Zhu, A. Roy-Chowdhury, *Image and Vision Computing*, 2013.
26. "Collaborative Sensing In A Distributed PTZ Camera Network", C. Ding, B. Song, J. A. Farrell, A. Roy-Chowdhury, *IEEE Trans. on Image Processing*, June 2012.
27. "Distributed Camera Networks: Integrated Sensing and Analysis for Wide Area Scene Understanding", B. Song, C. Ding, J. A. Farrell, A. Roy-Chowdhury, *Signal Processing Magazine*, May 2011.

28. "A Physics-Based Analysis of Image Appearance Models", Y. Xu, A. Roy-Chowdhury, *IEEE Trans. on Pattern Analysis and Machine Intelligence*, August 2011.
29. "Adaptive Cell Segmentation and Tracking for Volumetric Confocal Microscopy Images of A Developing Plant Meristem", M. Liu, A. Chakraborty, D. Singh, M. Gopi, R. Yadav, G.V. Reddy, and A. Roy-Chowdhury, *Molecular Plant*, 2011.
30. "Tracking and Activity Recognition Through Consensus in Distributed Camera Networks", B. Song, A. Kamal, C. Soto, C. Ding, J. Farrell, A. Roy-Chowdhury. *IEEE Trans. on Image Processing*, October 2010.
31. "Automated tracking of stem cell lineages of Arabidopsis shoot apex using local graph matching", M. Liu, R. Yadav, A. Roy-Chowdhury, G. V. Reddy, *The Plant Journal*, 2010.
32. "Rate-invariant Recognition of Humans and Their Activities", A. Veeraraghavan, A. Srivastava, A. Roy-Chowdhury, R.Chellappa. *IEEE Trans. on Image Processing*, June 2009.
33. "Continuous Learning of a Multilayered Network Topology in a Video Camera Network", X. Zou, B. Bhanu, A. Roy-Chowdhury, *Eurasip Journal on Image and Video Processing*, 2009.
34. "Robust Tracking in A Camera Network: A Multi-Objective Optimization Framework", B. Song and A. Roy-Chowdhury, *IEEE Journal on Selected Topics in Signal Processing: Special Issue on Distributed Processing in Vision Networks*, August 2008.
35. "Inverse Compositional Estimation of 3D Pose And Lighting in Dynamic Scenes", Y. Xu and A. Roy-Chowdhury, *IEEE Trans. on Pattern Analysis and Machine Intelligence*, July 2008.
36. "Integrating Illumination, Motion and Shape Models for Robust Face Recognition In Video", Y.Xu, A. Roy-Chowdhury and K. Patel, *Eurasip Journal on Advances in Signal Processing: Special Issue on Advanced Signal Processing and Pattern Recognition Methods for Biometrics*, 2008.
37. "Activity Representation Using 3D Shape Models", M. Abdelkader, A. Roy-Chowdhury, R. Chellappa and U. Akdemir, *Eurasip Journal on Image and Video Processing: Special Issue on Anthropocentric Video Analysis: Tools and Applications*, 2008.
38. "Towards A Measure of Deformability of Shape Sequences", A. Roy-Chowdhury, *Pattern Recognition Letters*, Vol. 28, 2007.
39. "Integrating Motion, Illumination and Structure in Video Sequences, With Applications in Illumination-Invariant Tracking", Y. Xu and A. Roy-Chowdhury, *IEEE Trans. on Pattern Analysis and Machine Intelligence*, May 2007.
40. "Towards A Multi-Terminal Video Compression Algorithm By Integrating Distributed Source Coding With Geometrical Constraints", B. Song, E. Tuncel, A. Roy-Chowdhury, *Journal of Multimedia*, 2007. (Invited Paper)
41. "Matching Shape Sequences in Video with Applications in Human Motion Analysis", A. Veeraraghavan, A. Roy-Chowdhury, R. Chellappa. *IEEE Trans. on Pattern Analysis and Machine Intelligence*, pp. 1896-1909, December, 2005.
42. "Shape Activities: Dynamic Stochastic Models for Moving/Deforming Shapes with Application to Abnormal Activity Detection", N. Vaswani, A. Roy-Chowdhury, R.Chellappa. *IEEE Trans. on Image Processing*, pp. 1603-1616, October, 2005.

43. “Statistical Bias in 3D Reconstruction from Monocular Video”, Amit K. Roy-Chowdhury, R. Chellappa. *IEEE Trans. on Image Processing*, pp. 1057-1062, August 2005.
44. “Identification of Humans Using Gait”, A. Kale, A.N.Rajagopalan, A.Sunderesan, N.Cuntoor, A. Roy-Chowdhury, V. Krueger, R. Chellappa. *IEEE Trans. on Image Processing*, pp. 1163-1173, Sept. 2004.
45. “An Information Theoretic Criterion for Evaluating the Quality of 3D Reconstructions”, Amit K. Roy-Chowdhury, R. Chellappa. *IEEE Transactions on Image Processing*, pp. 960-973, July 2004.
46. “Wide Baseline Image Registration With Application to 3D Face Modeling”, Amit K. Roy-Chowdhury, R. Chellappa, Trish Keaton. *IEEE Transactions on Multimedia*, pp. 423-434, June 2004.
47. “Face Reconstruction From Video Using Uncertainty Analysis and A Generic Model”, Amit K. Roy-Chowdhury, R. Chellappa. *Computer Vision and Image Understanding*, 91(1-2), pp. 188-213, July-August 2003.
48. “Stochastic Approximation and Rate Distortion Analysis for Robust Structure and Motion Estimation”, Amit K. Roy-Chowdhury, R. Chellappa. *International Journal of Computer Vision*, Volume 55(1), pp. 27-53, October 2003.

Selected Conference Papers

(Papers with acceptance rates similar to major journals, and a multi-tiered review process.)

1. “Joint Prediction of Activity Labels and Starting Times in Untrimmed Videos”, T. Mahmud, M. Hasan and A. Roy-Chowdhury, IEEE International Conference on Computer Vision, 2017.
2. “Exploiting Spatial Structure for Localizing Manipulated Image Regions”, J. H. Bappy, A. Roy-Chowdhury, J. Bunk, L. Nataraj and B. S. Manjunath, IEEE International Conference on Computer Vision, 2017.
3. “Weakly Supervised Summarization of Web Videos”, R. Panda, A. Das, Z. Wu, J. Ernst and A. Roy-Chowdhury, IEEE International Conference on Computer Vision, 2017.
4. “Unsupervised Adaptive Re-identification in Open World Dynamic Camera Networks”, R. Panda, A. H. Bhuiyan, V. Murino, A. Roy-Chowdhury, IEEE Conf. on Computer Vision and Pattern Recognition, 2017 (**Spotlight**).
5. “Collaborative Summarization of Topic-Related Videos”, R. Panda, A. Roy-Chowdhury, IEEE Conf. on Computer Vision and Pattern Recognition, 2017.
6. “Non-Uniform Subset Selection for Active Learning in Structured Data”, S. Paul, J.H. Bappy, A. Roy-Chowdhury, IEEE Conf. on Computer Vision and Pattern Recognition, 2017.
7. “The Impact of Typicality for Informative Representative Selection”, J.H. Bappy, S. Paul, A. Roy-Chowdhury, IEEE Conf. on Computer Vision and Pattern Recognition, 2017.
8. “Online Adaptation for Joint Scene and Object Classification”, J. H. Bappy, S. Paul, A. Roy-Chowdhury, European Conf. on Computer Vision, 2016.

9. "Temporal Model Adaptation for Person Re-Identification", N. Martinel, C. Micheloni, A. Roy-Chowdhury, European Conf. on Computer Vision, 2016.
10. "Generating Diverse Image Datasets with Limited Labeling", N. C. Mithun, R. Panda, A. Roy-Chowdhury, ACM Multimedia, 2016.
11. "Learning Temporal Regularity in Video Sequences", M. Hasan, J. Choi, J. Neumann, A. Roy-Chowdhury, L.S. Davis, IEEE Conf. on Computer Vision and Pattern Recognition, 2016.
12. "Context-Aware Active Learning of Activity Recognition Models", M. Hasan, A. Roy-Chowdhury, IEEE Intl. Conf. on Computer Vision, 2015.
13. "Context-Aware Activity Forecasting", A. Chakraborty, A. Roy-Chowdhury, Asian Conf. on Computer Vision, 2014.
14. "Consistent Re-identification In A Camera Network", A. Das, A. Chakraborty, A. Roy-Chowdhury, European Conf. on Computer Vision, 2014.
15. "Continuous Learning of Human Activity Models Using Deep Nets", M. Hasan, A. Roy-Chowdhury, European Conf. on Computer Vision, 2014.
16. "Incremental Activity Modeling and Recognition in Streaming Videos", M. Hasan, A. Roy-Chowdhury, IEEE Computer Vision and Pattern Recognition, 2014.
17. "Managing Redundant Content in Bandwidth Constrained Wireless Networks", T. Dao, S. Krishnamurthy, A. Roy-Chowdhury, T. LaPorta, CoNEXT 2014.
18. "Recognizing the Royals - Leveraging Computerized Face Recognition for Identifying Subjects in Ancient Artworks", R. Srinivasan, C. Rudolph, A. Roy-Chowdhury, ACM Multimedia, 2013.
19. "Context-Aware Modeling and Recognition of Activities in Video", Y. Zhu, N. Nayak, A. Roy-Chowdhury, IEEE Conf. on Computer Vision and Pattern Recognition, 2013 (**Oral - Acceptance Rate ~ 3.2%**).
20. "Information Consensus for Distributed Multi-Target Tracking", A. Kamal, J.A. Farrell, A. Roy-Chowdhury, IEEE Conf. on Computer Vision and Pattern Recognition, 2013.
21. "Alignment of Real-Time Live-Cell Growth Data for Quantitative Analysis of Growth at the Shoot Apex of Arabidopsis thaliana", M. Tataw, V. Reddy, A. Roy-Chowdhury, ACM Conference on Bioinformatics, Computational Biology and Biomedicine, 2012.
22. "Features With Feelings - Incorporating User Preferences in Video Categorization", R. Srinivasan and A. Roy-Chowdhury, Asian Conf. on Computer Vision, 2012.
23. "A 'String of Feature Graphs' Model for Recognition of Complex Activities in Natural Videos", U. Gaur, Y. Zhu, B. Song, A. Roy-Chowdhury, IEEE Conf. on Computer Vision, 2011 (**Oral - Acceptance Rate ~ 4.5%**).
24. "Cell Resolution 3D Reconstruction of Developing Multilayer Tissues from Sparsely Sampled Volumetric Microscopy Images", A. Chakraborty, R. Yadav, G. V. Reddy, A. Roy-Chowdhury, IEEE Intl. Conf. on Bioinformatics and Biomedicine, 2011.

25. "3D Neuron Tip Detection in Volumetric Microscopy Images", M. Liu, H. Peng, A. Roy-Chowdhury, E. Myers, *IEEE Intl. Conf. on Bioinformatics and Biomedicine*, 2011.
26. "A Large-scale Benchmark Dataset for Event Recognition in Surveillance Video", Sangmin Oh, Anthony Hoogs, Amitha Perera, Naresh Cuntoor, C.-C. Chen, Jong Taek Lee, Saurajit Mukherjee, J. K. Aggarwal, Hyungtae Lee, Larry Davis, Eran Swears, Xioyang Wang, Qiang Ji, Kishore Reddy, Mubarak Shah, Carl Vondrick, Hamed Pirsiavash, Deva Ramanan, Jenny Yuen, Antonio Torralba, Bi Song, Anesdo Fong, Amit Roy-Chowdhury, and Mita Desai, *IEEE Conf. on Computer Vision and Pattern Recognition*, 2011.
27. "A Stochastic Graph Evolution Framework for Robust Multi-Target Tracking", T. Jeng, E. Staudt, A. Roy-Chowdhury, *European Conf. on Computer Vision*, 2010.
28. "Interactive Event Search Using Transfer Learning", A. Lam, C. Shelton, A. Roy-Chowdhury, *Asian Conf. on Computer Vision*, 2010.
29. "Multilinear Feature Extraction and Classification of Multi-Focal Images, With Applications in Nematode Taxonomy", M. Liu, A. Roy-Chowdhury, *IEEE Conf. on Computer Vision and Pattern Recognition*, 2009 .
30. "Distributed Multi-Target Tracking In A Self-Configuring Camera Network", C. Soto, B. Song, A. Roy-Chowdhury, *IEEE Conf. on Computer Vision and Pattern Recognition*, 2009.
31. "A Theoretical Analysis of Linear and Multi-linear Models of Image Appearance", Y. Xu, A. Roy-Chowdhury, *IEEE Conf. on Computer Vision and Pattern Recognition*, 2008.
32. "Learning A Geometry-Integrated Image Appearance Manifold From A Small Training Set", Y. Xu, A. Roy-Chowdhury, *IEEE Conf. on Computer Vision and Pattern Recognition*, 2008.
33. "Stochastic Adaptive Tracking In A Camera Network", B. Song and A. Roy-Chowdhury, *IEEE Intl. Conf. on Computer Vision*, 2007.
34. "Closed-Loop Tracking and Change Detection in Multi-Activity Sequences", B. Song, N. Vaswani and A. Roy-Chowdhury, *IEEE Computer Vision and Pattern Recognition*, 2007.
35. "The Function Space of an Activity", A. Veeraraghavan, R. Chellappa, A. Roy-Chowdhury, *IEEE Computer Vision and Pattern Recognition*, 2006. (**Oral Presentation, Acceptance Rate 4.8%**)
36. "Integrating the Effects of Motion, Illumination and Structure in Video Sequences", Y. Xu, A. Roy-Chowdhury, *IEEE Intl. Conf. on Computer Vision*, 2005.
37. "A Measure of Deformability of Shapes, With Applications in Human Motion Analysis", A. Roy-Chowdhury, *IEEE Computer Vision and Pattern Recognition*, 2005. (**Oral Presentation, Acceptance Rate 6.5%**)
38. "Role of Shape and Kinematics in Human Movement Analysis", A. Veeraraghavan, A. Roy-Chowdhury, R. Chellappa, *IEEE Computer Vision and Pattern Recognition*, 2004.
39. "Activity Recognition Using the Dynamics of the Configuration of Interacting Objects", N. Vaswani, Amit K. Roy-Chowdhury, R. Chellappa. *IEEE Computer Vision and Pattern Recognition*, 2003.

Other Referred Conference Publications

1. “Real Estate Image Classification”, J.H. Bappy, J. Barr, N. Srinivasan, A.K. Roy-Chowdhury, *IEEE Winter Conference on Applications of Computer Vision*, 2017.
2. “Detection and Localization of Image Forgeries using Resampling Features and Deep Learning”, J. Bank, T. Mohammad, L. Nataraj, A. Flenner, B. Manjunath, S. Chandrasekaran, A. Roy-Chowdhury, L. Peterson, *CVPR Workshop on Media Forensic*, 2017.
3. “Sparse Modeling for Topic-oriented Video Summarization”, R. Panda, A. Roy-Chowdhury, *IEEE International Conference on Acoustics, Speech and Signal Processing*, 2017.
4. “Video Summarization in a Multi-View Camera Network”, R. Panda, A. Das, A. Roy-Chowdhury, *International Conf. on Pattern Recognition*, 2016.
5. “Inter-dependent CNNs for Joint Scene and Object Recognition”, J. H. Bappy, A. Roy-Chowdhury, *International Conf. on Pattern Recognition*, 2016.
6. “Efficient Selection of Informative and Diverse Training Samples with Applications in Scene Classification”, S. Paul, J. H. Bappy, A. Roy-Chowdhury, *IEEE International Conf. on Image Processing*, 2016.
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