Curriculum Vitae

Amit K. Roy-Chowdhury
Professor, Dept. of Electrical and Computer Engineering
Dept. of Computer Science and Engineering (Cooperating Faculty)
University of California, Riverside.

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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 lie in the foundational principles of computer vision, image/video processing, and vision-based statistical learning, with applications in cyber-physical, autonomous and intelligent systems. A substantial portion of the research thrust in our group currently is on statistical learning and weakly supervised approaches for visual data analysis.

Extramural Funding

Current Projects

- "Combined Modeling and Experimental Study of the Mechanisms of Growth Patterns in Stem Cell Homeostasis in Plants", National Science Foundation, Division of Mathematical Sciences, 2018-2022 (Co-PI)
- "Automated Image Forensics for Identification of Research Misconduct", Health and Human Services, 2018-19. (PI)
- "A Computational and Robotics Infrastructure for Learning-Based Autonomous Systems", Office of Naval Research, 2018-19 (PI)
- "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)
- "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

- "Activity Forecasting in Continuous Natural Videos", National Geospatial Agency, 2015-2017. (PI)
- "Integrated Statistical and Semantic Analysis for Image Forensics", DARPA, 2016-18. (PI at UCR, part of team with Mayachitra Inc.)
- "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. (Co-PI)
- "FACES: Faces, Art and Computerized Evaluation Systems", National Endowment for the Humanities, 2012-14. (Co-PI)
- "Wide-Area Cooperative Biometric/Tagging, Tracking and Locating in a Multimodal Sensor Network", Office of Naval Research, Information Systems Research Thrust Area, 2008-2014. (PI)
- "Leveraging Online Social Networks for Early Detection of Agricultural Bioterrorism", DTRA, 2013-2014. (Co-PI)
- "Distributed Dynamic Scene Analysis in a Self-Configuring Multimodal Sensor Network", Office of Naval Research, Mathematics, Computers and Information Research Division, 2009-2013. (PI)
- "Analysis of Complex Behaviors in Video", DARPA (sub to Mayachitra, Inc.), 2008 - 2013. (PI at UCR)
- "Integrating Illumination, Motion and Shape Models for Video Analysis", NSF, 2007-2013. (PI)
- "An Intelligent Network of Wireless Videos for Dynamic Scene Analysis", National Science Foundation, Power, Controls and Adaptive Networks, 2006-2011. (PI)
- "RI: Medium: Integrated Analysis and Synthesis for Data Mining in a Video Network", National Science Foundation, 2009-2013. (Co-PI)
- "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. (PI)
- "Aerial Video Analysis and Communication Laboratory", Office of Naval Research, Defense University Research Instrumentation Program, 2010-2012. (PI)
- "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. (Co-PI)
- "Outdoor Video Sensor Network Laboratory", National Science Foundation, Computational Research Infrastructure, 2006-2009. (Co-PI)
- "Imaging and Non-Imaging Sensor Network for Urban Disaster Management", National Science Foundation, Computational Research Infrastructure, 2006-2009. (PI)
- "A Testbed for Robust Multimodal Sensor Networks", Office of Naval Research, Defense University Research Instrumentation Program, 2007-2009. (PI)

Gifts and Contracts from Industry

- Google Faculty Research Award,
- CISCO Research Award,
- Lockheed-Martin Research Award,
- Adobe Research Award

Professional Service

- Associate Editor IEEE Trans. on Image Processing, 2012-2017.
- 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).
- Program Chair, ICVGIP 2018.
- Area Chair for CVPR 2017, ICCV 2017, ICIP 2018.
- 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

- Chair, ECE Department, 2018-
- Vice-Chair, ECE Department, 2017-18
- Academic Senate Committee on Research, Chair 2017-18.
- Academic Senate Graduate Council, 2014-17, Vice-Chair 2016-17.
- UCR Academic Senate Committee on Research, 2012-2014, Chair 2017-
- Bourns College Executive Committee, 2014-17.
- 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

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

- Rameswar Panda, PhD, 2019, Currently at IBM Watson Research Labs
  Thesis: Visual Learning with Weak Supervision: Applications in Video Summarization and Person Re-identification
- Jawadul Bappy, PhD, 2018, Currently at JD.com
  Thesis: Context-Aware Informative Sample Selection and Image Forgery Detection

- Katya Mkrtchyan , PhD, 2016, Currently Asst. Prof. at Cal State Northridge
  Thesis: Video Bioinformatics with Applications in Cell Biology and Entomology
- Mahmudul Hasan, PhD, 2016, Currently at Comcast Labs
  Thesis: Online Activity Understanding and Labeling in Natural Videos
- Abir Das, PhD, 2015, Currently Asst. Prof., IIT Kharagpur
  Thesis: Active Learning in Multi-Camera Networks, With Applications in Person Re-Identification
- Shu Zhang, PhD, 2015, Currently at JD.com
  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 Facebook
  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. "Context-Aware Query Selection for Active Learning in Event Recognition", M. Hasan, S. Paul, A. Mourikis, A. Roy-Chowdhury, *IEEE Trans. on Pattern Analysis and Machine Intelligence*, In Press.
2. "Hybrid LSTM and Encoder-Decoder Architecture for Detection of Image Forgeries", J. Bappy, L. Natarajan, B. S. Manjunath, A. Roy-Chowdhury, *IEEE Trans. on Image Processing*, In Press.
3. "Joint Embeddings with Multimodal Cues for Video-Text Retrieval", N. C. Mithun, J. B Li, F. Metze, A. Roy-Chowdhury, *International Journal of Multimedia Information Retrieval*, In Press.
4. "Diversity-aware Multi-Video Summarization", R. Panda, N. C. Mithun, A. Roy-Chowdhury, *IEEE Trans. on Image Processing*, 2017.
5. "Multi-View Surveillance Video Summarization via Joint Embedding and Sparse Optimization", R. Panda, A. Roy-Chowdhury, *IEEE Trans. on Multimedia*, 2017.
6. "Managing Redundant Content in Bandwidth Constrained Networks", T. Dao, A. Roy-Chowdhury, H. Madhyastha, S. Krishnamurthy, T. LaPorta, *IEEE/ACM Trans. on Networking*, 2016.
7. "Network Consistent Data Association", A. Chakraborty, A. Das, A. Roy-Chowdhury, *IEEE Trans. on Pattern Analysis and Machine Intelligence*, 2016.
8. "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.
9. "Context-Aware Video Summarization", S. Zhang, Y. Zhu, A. Roy-Chowdhury, *IEEE Trans. on Image Processing*, 2016.
10. "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.
11. "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.

12. "A Continuous Learning Framework for Activity Recognition Using Deep Hybrid Feature Models", M. Hasan, A. Roy-Chowdhury, *IEEE Trans. on Multimedia"*, November 2015.

13. "Incremental learning of human activity models from videos", M. Hasan, A. Roy-Chowdhury, *Computer Vision and Image Understanding"*, 2015.

14. "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.

15. "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.

16. "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.

17. "Computerized Face Recognition in Renaissance Portrait Art", R. Srinivasan, C. Rudolph, A. Roy-Chowdhury, *IEEE Signal Processing Magazine*, July 2015.

18. "Tracking multiple interacting targets in a camera network", S. Zhang, Y. Zhu, A. Roy-Chowdhury, *Computer Vision and Image Understanding*, 2015.

19. "Context Aware Spatio-temporal Cell Tracking In Densely Packed Multilayer Tissues", *Medical Image Analysis*, January 2015.

20. "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.

21. "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.

22. "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.

23. "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.

24. "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.

25. "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.

26. "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.

27. "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.

28. "Vector Field Analysis for Multi-Object Behavior Modeling", N. Nayak, Y. Zhu, A. Roy-Chowdhury, *Image and Vision Computing*, 2013.

29. "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.

30. "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.

31. "A Physics-Based Analysis of Image Appearance Models", Y. Xu, A. Roy-Chowdhury, *IEEE Trans. on Pattern Analysis and Machine Intelligence*, August 2011.

32. "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.

33. "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.

34. "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.

35. "Rate-invariant Recognition of Humans and Their Activities", A. Veeraraghavan, A. Srivastava, A. Roy-Chowdhury, R.Chellappa. *IEEE Trans. on Image Processing*, June 2009.

36. "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.

37. "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.

38. "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.

39. "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.

40. "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.

41. "Towards A Measure of Deformability of Shape Sequences", A. Roy-Chowdhury, *Pattern Recognition Letters*, Vol. 28, 2007.

42. "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.

43. " 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)*

44. "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.

45. "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.

46. "Statistical Bias in 3D Reconstruction from Monocular Video", Amit K. Roy-Chowdhury, R. Chellappa. *IEEE Trans. on Image Processing*, pp. 1057-1062, August 2005.

47. "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.

48. "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.

49. "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.

50. "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.

51. "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. "Adversarial Perturbations Against Real-Time Video Classification Systems", S. Li, A. Neupane, S. Paul, C. Song, S. Krishnamurthy, A. Roy-Chowdhury, and A. Swami, Network and Distributed System Security Symposium, 2019.

2. "W-TALC: Weakly Supervised Temporal Activity Localization and Classification", S. Paul, S. Roy, and A. Roy-Chowdhury, European Conference on Computer Vision, 2018.

3. "Contemplating Visual Emotions: Understanding and Overcoming Dataset Bias", R. Panda, J. Zhang, H. Li, J. Lee, X. Lu, and A. Roy-Chowdhury, European Conference on Computer Vision, 2018.

4. "Webly Supervised Joint Embedding for Cross-Modal Image-Text Retrieval", N. Mithun, R. Panda, E. Papalexakis, and A. Roy-Chowdhury, ACM Intl. Conf. on Multimedia, 2018.

5. "Learning Joint Embedding with Multimodal Cues for Cross-Modal Video-Text Retrieval", N. Mithun, J. Li, F. Metze, and A. Roy-Chowdhury, ACM Intl. Conf. on Multimedia Retrieval, 2018. (**Best Paper Award)**

6. "Exploiting Transitivity for Learning Person Reidentification Models on a Budget", S. Roy, S. Paul, N. Young, and A. Roy-Chowdhury, IEEE Conference on Computer Vision and Pattern Recognition, 2018.

7. "FFNet: Video Fast-Forwarding via Reinforcement Learning", S. Lan, R. Panda, Q. Zhu, and A. Roy-Chowdhury, IEEE Conference on Computer Vision and Pattern Recognition, 2018.

8. "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.

9. "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.

10. "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.

11. "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 - Acceptance Rate 8%**).

12. "Collaborative Summarization of Topic-Related Videos", R. Panda, A. Roy-Chowdhury, IEEE Conf. on Computer Vision and Pattern Recognition, 2017.

13. "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.

14. "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.

15. "Online Adaptation for Joint Scene and Object Classification", J. H. Bappy, S. Paul, A. Roy-Chowdhury, European Conf. on Computer Vision, 2016.

16. "Temporal Model Adaptation for Person Re-Identification", N. Martinel, C. Micheloni, A. Roy-Chowdhury, European Conf. on Computer Vision, 2016.

17. "Generating Diverse Image Datasets with Limited Labeling", N. C. Mithun, R. Panda, A. Roy-Chowdhury, ACM Multimedia, 2016.

18. "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.

19. "Context-Aware Active Learning of Activity Recognition Models", M. Hasan, A. Roy-Chowdhury, IEEE Intl. Conf. on Computer Vision, 2015.

20. "Context-Aware Activity Forecasting", A. Chakraborty, A. Roy-Chowdhury, Asian Conf. on Computer Vision, 2014.

21. "Consistent Re-identification In A Camera Network", A. Das, A. Chakraborty, A. Roy-Chowdhury, European Conf. on Computer Vision, 2014.

22. "Continuous Learning of Human Activity Models Using Deep Nets", M. Hasan, A. Roy-Chowdhury, European Conf. on Computer Vision, 2014.

23. "Incremental Activity Modeling and Recognition in Streaming Videos", M. Hasan, A. Roy-Chowdhury, IEEE Computer Vision and Pattern Recognition, 2014.

24. "Managing Redundant Content in Bandwidth Constrained Wireless Networks", T. Dao, S. Krishnamurthy, A. Roy-Chowdhury, T. LaPorta, CoNEXT 2014.

25. "Recognizing the Royals - Leveraging Computerized Face Recognition for Identifying Subjects in Ancient Artworks", R. Srinivasan, C. Rudolph, A. Roy-Chowdhury, ACM Multimedia, 2013.

26. "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 $\sim$ 3.2%**).

27. "Information Consensus for Distributed Multi-Target Tracking", A. Kamal, J.A. Farrell, A. Roy-Chowdhury, IEEE Conf. on Computer Vision and Pattern Recognition, 2013.

28. "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.

29. "Features With Feelings - Incorporating User Preferences in Video Categorization", R. Srinivasan and A. Roy-Chowdhury, Asian Conf. on Computer Vision, 2012.

30. "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 $\sim$ 4.5%**).

31. "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.

32. "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.

33. "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.

34. "A Stochastic Graph Evolution Framework for Robust Multi-Target Tracking", T. Jeng, E. Staudt, A. Roy-Chowdhury, *European Conf. on Computer Vision, 2010.*

35. "Interactive Event Search Using Transfer Learning", A. Lam, C. Shelton, A. Roy-Chowdhury, *Asian Conf. on Computer Vision, 2010.*

36. "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* .

37. "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*.

38. "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*.

39. "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*.

40. "Stochastic Adaptive Tracking In A Camera Network", B. Song and A. Roy-Chwodhury, *IEEE Intl. Conf. on Computer Vision, 2007*.

41. "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*.

42. "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%**)

43. "Integrating the Effects of Motion, Illumination and Structure in Video Sequences", Y. Xu, A. Roy-Chowdhury, *IEEE Intl. Conf. on Computer Vision, 2005*.

44. "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%**)

45. "Role of Shape and Kinematics in Human Movement Analysis", A. Veeraraghavan, A. Roy-Chowdhury, R. Chellappa, *IEEE Computer Vision and Pattern Recognition, 2004.*

46. "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. "Incorporating Scalability in Unsupervised Spatio-Temporal Feature Learning", S. Paul, S. Roy, and A. Roy-Chowdhury, *IEEE Intl. Conf. on Acoustics, Speech and Signal Processing*, 2018.

2. "Deep Learning Based Identity Verification in Renaissance Portraits", A. Gupta, N. Mithun, C. Rudolph, and A. Roy-Chowdhury, *IEEE Intl. Conf. on Multimedia and Expo*, 2018.

3. "Learning Long-Term Invariant Features for Vision-Based Localization", N. Mithun, C. Simons, R. Casey, S. Hilligardt, A. Roy-Chowdhury, *IEEE Winter Conference on Applications of Computer Vision*, 2018.

4. "Real Estate Image Classification", J.H. Bappy, J. Barr, N. Srinivasan, A.K. Roy-Chowdhury, *IEEE Winter Conference on Applications of Computer Vision*, 2017.

5. "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.

6. "Sparse Modeling for Topic-oriented Video Summarization", R. Panda, A. Roy-Chowdhury, *IEEE International Conference on Acoustics, Speech and Signal Processing*, 2017.

7. "Video Summarization in a Multi-View Camera Network", R. Panda, A. Das, A. Roy-Chowdhury, *International Conf. on Pattern Recognition*, 2016.

8. "Inter-dependent CNNs for Joint Scene and Object Recognition", J. H. Bappy, A. Roy-Chowdhury, *International Conf. on Pattern Recognition*, 2016.

9. "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.

10. "Embedded Sparse Coding for Summarizing Multi-view Videos", R. Panda, A. Das, A. Roy-Chowdhury, *IEEE International Conf. on Image Processing*, 2016.

11. "A Poisson Process Model for Activity Forecasting", T. Mahmud, M. Hasan, A. Chakraborty, A. Roy-Chowdhury, *IEEE International Conf. on Image Processing*, 2016.

12. "CNN Based Region Proposals for Efficient Object Detection", J. H. Bappy, A. Roy-Chowdhury, *IEEE International Conf. on Image Processing*, 2016.

13. "Adaptive Algorithm Selection, with Applications in Pedestrian Detection", S. Zhang, Q. Zhu, A. Roy-Chowdhury, *IEEE International Conf. on Image Processing*, 2016.

14. "Video Summarization Through Change Detection in a Non-Overlapping Camera Network", S. Zhang, A. Roy-Chowdhury, *IEEE Intl. Conf. on Image Processing*, 2015.

15. "Active Image Pair Selection for Continuous Person Re-identification", A. Das, A. Roy-Chowdhury, *IEEE Intl. Conf. on Image Processing*, 2015.

16. "Robust Face Recognition Based on Saliency Maps of Sigma Sets", R. Srinivasan, A. Roy-Chowdhury, *IEEE Intl. Conf. on Biometrics: Theory, Applications and Systems*, 2015.

17. "A Camera Network Tracking (CamNeT) Dataset and Performance Baseline", S. Zhang, T. Faltemier, A. Roy-Chowdhury, *Workshop on Applications in Computer Vision*, 2014.

18. "Learning a Sparse Dictionary of Video Structure for Activity Modeling", N. Nayak, A. Roy-Chowdhury, *IEEE Intl. Conf. on Image Processing*, 2014.

19. "A Conditional Random Field Model For Tracking In Densely Packed Cell Structures", A. Chakraborty, A. Roy-Chowdhury, *IEEE Intl. Conf. on Image Processing*, 2014.

20. "Context-Aware Graphical Models for Video Analysis", Y. Zhu, A. Roy-Chowdhury, *GlobalSIP*, 2013.

21. "Capturing High Fidelity Images In PTZ Camera Networks", C. Ding, J. A. Farrell, A. Roy-Chowdhury, *GlobalSIP*, 2013.

22. "Quantitative Modeling of Artist Styles in Renaissance Face Portraiture", R. Srinivasan, A. Roy-Chowdhury, C. Rudolph, J. Kohl, *Intl. Workshop on Historical Document Processing and Imaging*, 2013.

23. "Automated Registration of Live Imaging Stacks of Arabidopsis", K. Mkrtchyan, A. Chakraborty, A. Roy-Chowdhury, *International Symposium on Biomedical Imaging*, 2013.

24. "Constrained Optimization for Opportunistic Distributed Visual Sensing", A. Morye, C. Ding, A. K. Roy-Chowdhury, J. A. Farrell, *American Controls Conference*, 2013.

25. "Opportunistic Sensing in a Distributed PTZ Camera Network", C. Ding, A. Morye, J. A. Farrell, A. Roy-Chowdhury, *IEEE Intl. Conf. on Distributed Smart Cameras*, 2012.

26. "Information Weighted Consensus", A. Kamal, J. A. Farrell, A. Roy-Chowdhury, *IEEE Controls and Decision Conference*, 2012.

27. "Coordinated Sensing and Tracking for Mobile Camera Platforms", C. Ding, J. A. Farrell, A. Roy-Chowdhury, *American Controls Conference*, 2012.

28. "Video Classification Based on Social Attitudes", R. Srinivasan, A. Roy-Chowdhury, *IEEE Intl. Conf. on Image Processing*, 2012.

29. "Consensus-Based Distributed Estimation in Camera Networks", A. Kamal, J. A. Farrell, A. Roy-Chowdhury, *IEEE Intl. Conf. on Image Processing*, 2012.

30. "A Generalized Kalman Consensus Filter for Wide Area Video Networks", A. Kamal, C. Ding, B. Song, J. A. Farrell, A. Roy-Chowdhury, *IEEE Controls and Decision Conference*, 2011.

31. "Dynamic Modeling of Streaklines for Motion Pattern Analysis in Video", N. Nayak, B. Song, A. Roy-Chowdhury, *Intl. Workshop on Machine Learning for Vision-based Motion Analysis*, 2011.

32. "Optimized imaging and target tracking within a distributed camera network", A. Morye, C. Ding, B. Song, A. Roy-Chowdhury, J. A. Farrell, *American Controls Conference*, 2011.

33. "Efficient cell segmentation and tracking of developing plant meristem", K. Mkrtchyan, D. Singh, M. Liu, G. V. Reddy, A. Roy-Chowdhury, M. Gopi, *Intl. Conf. on Image Processing*, 2011.

34. "Vector Field Analysis for Motion Pattern Identification in Video", N. Nayak, T. A. Kamal, A. Roy-Chowdhury, *Intl. Conf. on Image Processing*, 2011.

35. "Belief Consensus for Distributed Action Recognition", T. A. Kamal, B. Song, A. Roy-Chowdhury, *Intl. Conf. on Image Processing*, 2011.

36. "Pattern Analysis of Stem Cell Growth Dynamics in the Shoot Apex of Arabidopsis", O. Tataw, M. Liu, R. Yadav, G. V. Reddy, A. Roy-Chowdhury, *Intl. Conf. on Image Processing*, 2010.

37. "Multi-focal Nematode Image Classification Using the 3D X-Ray Transform", M. Liu, A. Roy-Chowdhury, M. Yoder, P. DeLay, *Intl. Conf. on Image Processing*, 2010.

38. "Multi-Target Tracking Using Long-term Stochastic Associations", T. Jeng, B. Song, E. Staudt, A. Roy-Chowdhury, A. Sengupta, *Intl. Conf. on Image Processing*, 2010.

39. "The Human Action Image", R.J. Sethi, A.K. Roy-Chowdhury, *Intl. Conf. on Pattern Recognition, 2010.*

40. "A Neurobiologically Motivated Stochastic Method for Analysis of Human Activities in Video", R.J. Sethi, A. Roy-Chowdhury, *Intl. Conf. on Pattern Recognition*, 2010.

41. "Modeling and Recognition of Complex Multi-Person Interactions in Video", R. Sethi, A. Roy-Chowdhury, *ACM MM Workshop on Multimodal Pervasive Video Analysis*, 2010.

42. "Modeling Multi-Object Activities in Phase Space", R. Sethi, A. Roy-Chowdhury, *2nd International Workshop on Video Event Categorization, Tagging and Retrieval*, 2010.

43. "Cell Volume Estimation from a Sparse Collection of Noisy Confocal Image Slices", A. Chakraborty, M. Liu, G. V. Reddy, A. Roy-Chowdhury, *Indian Conf. on Computer Vision, Graphics and Image Processing*, 2010.

44. "Physics-based Activity Modelling in Phase Space", R. Sethi, A. Roy-Chowdhury, *Indian Conf. on Computer Vision, Graphics and Image Processing*, 2010.

45. "The Human Action Image and its Application to Motion Recognition", R. Sethi, A. Roy-Chowdhury, *Indian Conf. on Computer Vision, Graphics and Image Processing*, 2010.

46. "Query-based Retrieval of Complex Activities using Strings of Motion-Words", U. Gaur, B. Song, A. Roy-Chowdhury, *IEEE Workshop on Motion and Video Computing, 2009.*

47. "Activity Recognition by Integrating the Physics of Motion with a Neuromorphic Model of Perception", R. Sethi, A. Roy-CHowdhury, S. Ali, *IEEE Workshop on Motion and Video Computing, 2009.*

48. "Exploiting Local Structure for Tracking Plant Cells in Noisy Images", M. Liu, A. Roy-Chowdhury, G. Reddy, *IEEE Intl. Conf. on Image Processing, 2009.*

49. "Robust Estimation of Stem Cell Lineages Using Local Graph Matching", M. Liu, A. Roy-Chowdhury and G. Reddy, *IEEE Computer Society Workshop on Mathematical Methods in Biomedical Image Analysis, 2009*. (**Oral Acceptance Rate $\sim$ 20%**)

50. "Efficient Motion Estimation Under Varying Illumination", Y. Xu and A. Roy-Chowdhury, *IEEE Intl. Conf. on Image Processing, 2008*.

51. "Multi-Target Tracking Through Opportunistic Camera Control In A Resource Constrained Multimodal Sensor Network", J. Nayak, L. Gonzalez-Argueta, B. Song, A. Roy-Chowdhury and E. Tuncel, *IEEE/ACM Intl. Conf. on Distributed Smart Cameras, 2008.*

52. "Decentralized Camera Network Control Using Game Theory", B. Song, C. Soto, A. Roy-Chowdhury and J. Farrell, *Workshop on Smart Camera and Visual Sensor Networks at IEEE/ACM Intl. Conf. on Distributed Smart Cameras, 2008.*

53. "Pose and Illumination Invariant Face Recognition in Video", Y. Xu, A. Roy-Chowdhury, K. Patel, *IEEE Computer Society Workshop on Biometrics (in conjunction with CVPR), 2007.*

54. "Determining Topology In A Distributed Camera Network", X. Zou, B. Bhanu, B. Song, A. Roy-Chowdhury, *IEEE Intl. Conf. on Image Processing, 2007.*

55. "Modeling Time-Varying Illumination Patterns in Video", Y. Xu, A. Roy-Chowdhury, *IEEE Intl. Conf. on Image Processing, 2007.*

56. "Super-resolved Facial Texture Under Changing Pose and Illumination", J. Yu, B. Bhanu, Y. Xu, A. Roy-Chowdhury, *IEEE Intl. Conf. on Image Processing, 2007*.

57. "Integrated Tracking and Recognition of Human Activities in Shape Space", B. Song, A. Roy-Chowdhury and N. Vaswani, *Indian Conf. on Computer Vision, Graphics and Image Processing, 2006.*

58. "Pose and Illumination Invariant Registration and Tracking for Video-based Face Recognition", Y. Xu and A. Roy-Chowdhury, *IEEE Computer Society Workshop on Biometrics (in association with CVPR), 2006*.

59. "Learning Illumination Models While Tracking", Y. Xu and A. Roy-Chowdhury, *Intl. Synposium on 3D Data Processing, Visualization and Transmission, 2006.*

60. "An Illumination Invariant 3D Model-based Tracking Algorithm, With Application in Video Compression", L. Nyugen, Y. Xu and A. Roy-Chowdhury, *IEEE Intl. Conf. on Image Processing, 2006.*

61. "A Multi-Terminal Model-Based Video Compression Algorithm", B. Song, A. Roy-Chowdhury, E. Tuncel, *IEEE Intl. Conf. on Image Processing, 2006.*

62. "Summarization and Indexing of Human Activity Sequences", B. Song, N. Vaswani, A. Roy-Chowdhury, *IEEE Intl. Conf. on Image Processing, 2006.*

63. "Towards A Multi-Terminal Video Compression Algorithm Using Epipolar Geometry", B. Song, O. Bursalioglu, E. Tuncel, A. Roy-Chowdhury, *Intl. Conf. on Acoustics, Speech and Signal Processing, 2006.* (**Best Student Paper Award**)

64. "The Joint Motion and Illumination Space of Video Sequences", Y. Xu and A. Roy-Chowdhury, *IEEE Intl. Conf. on Image Processing, 2005*.

65. "An Algorithm for 3D Reconstruction of Deformable Shape Sequences", A. Roy-Chowdhury, *Intl. Conf. on Acoustics, Speech and Signal Processing, 2005.*

66. "Activity Representation Using 3D Shape Models", A. Roy-Chowdhury, R. Chellappa, U. Akdemir, *Indian Conf. on Computer Vision, Graphics and Image Processing, 2004.*

67. "Contour Based 3D Face Modeling From A Monocular Video", H. Gupta, A. Roy-Chowdhury, R. Chellappa, *British Machine Vision Conference*, 2004.

68. "A System Identification Approach for Video-Based Face Recognition", G. Aggarwal, Amit K. Roy-Chowdhury, R. Chellappa. *International Conference on Pattern Recognition, 2004.*

69. "Facial Similarity Across Age, Disguise, Illumination and Pose", N. Ramanathan, A. Roy-Chowdhury, R. Chellappa, *International Conference on Image Processing, 2004.*

70. "Multiple View Tracking of Human Motion Modeled by Kinematic Chains", A. Sundaresan, A. Roy-Chowdhury, R. Chellappa, *International Conference on Image Processing, 2004.*

71. "Fusion of Face and Gait for Human Identification", A. Kale, A. Roy-Chowdhury, R. Chellappa, *Intl. Conf. on Acoustics, Speech and Signal Processing, 2004.*

72. "3D Analysis of Human Motion Using Kinematic Chains and Multiple Cameras for Tracking", A. Sundaresan, A. Roy-Chowdhury, R. Chellappa, *Eighth Intl. Symp. on 3-D Analysis of Human Motion, Tampa, Florida*, 2004.

73. "Deterministic and Statistical Properties of Multi-resolution 3D Modeling", A. Roy-Chowdhury, H. Liu, R. Chellappa. *ICCV Workshop on Statistical and Computational Theories in Vision, 2003.*

74. "A Factorization Approach for Activity Recognition", Amit K. Roy Chowhdury, R. Chellappa. *CVPR Workshop on Event Mining, 2003.*

75. "Statistical Error Propagation in 3D Modeling From Monocular Video", Amit K. Roy Chowdhury, R. Chellappa. *CVPR Workshop on Statistical Analysis in Computer Vision, 2003.*

76. "A Hidden Markov Model Based Framework for Recognition of Humans from Gait Sequences", Aravind Sunderesan, Amit K. Roy Chowdhury, R. Chellappa. *Accepted to Intl. Conf. on Image Processing, 2003.*

77. "Video Based Rendering of Planar Dynamic Scenes", Amit Kale, Amit K. Roy-Chowdhury, R. Chellappa. *Intl. Conf. on Multimedia and Expo, 2003.*

78. "Video Synthesis of Arbitrary Views for Approximately Planar Scenes", Amit K. Roy-Chowdhury, A. Kale, R. Chellappa. *International Conference on Acoustics, Speech and Signal Processing, 2003.*

79. "Towards A View Invariant Gait Recognition Algorithm", Amit K. Roy-Chowdhury, A. Kale, R. Chellappa. *IEEE Intl. Conf. on Advanced Video and Signal Based Surveillance, 2003.*

80. "Statistical Shape Theory for Activity Modeling", Namrata Vaswani, Amit K. Roy-Chowdhury, R. Chellappa. *International Conference on Acoustics, Speech and Signal Processing, 2003.*

81. "Activity Modeling and Recognition Using Shape Theory", R. Chellappa, N.Vaswani, Amit K. Roy-Chowdhury. *Behavior Representation in Modeling and Simulation, 2003.*

82. "3D Face Reconstruction From Video Using a Generic Model", Amit K. Roy-Chowdhury, S. Krishnamurthy, T. Vo, R. Chellappa. *Proceedings of the International Conference on Multimedia and Expo, 2002*.

83. "Towards A Criterion For Evaluating the Quality of 3D Reconstructions", Amit K. Roy-Chowdhury, R. Chellappa. *Proceedings of the International Conference on Acoustics, Speech and Signal Processing, 2002.*

84. "Wide Baseline Image Registration Using Prior Information", Amit K. Roy-Chowdhury, R. Chellappa, Trish Keaton. *Proceedings of IEEE International Workshop on Multimedia Signal Processing, 2002.*

85. "Robust Estimation of Depth and Motion Using Stochastic Approximation", Amit K. Roy-Chowdhury, R. Chellappa. *Proceedings of the International Conference on Image Processing, Greece, 2001.*

86. "A Robust Algorithm for Fusing Noisy Depth Estimates Using Stochastic Approximation", Amit K. Roy-Chowdhury, R. Chellappa. *Proceedings of the International Conference on Acoustics, Speech and Signal Processing, Utah, 2001.*

87. "Fusing Multiple Two Frame Depth Estimates for 3D Reconstruction With Unknown Noise Distribution", Amit K. Roy-Chowdhury, R. Chellappa. *Proceedings of the Indian Conference on Computer Vision, Graphics and Image Processing, Bangalore, India, 2000.*

88. "A Real-time LD-CELP Codec on Pentium", Amit K. Roy-Chowdhury, M.Singhal. *International Conference on Signal Processing Applications & Technology, 1998, Toronto , Canada.*

89. "An Efficient Implementation of H.221 Protocol on DSP563xx Processor", A.Sridhar, Amit K. Roy-Chowdhury. *International Conference on Signal Processing Applications & Technology, 1998, Toronto , Canada.*

90. "Region-of-Interest Reconstruction from Noisy Projections Using Fractal Models and Wiener Filtering" Amit K. Roy-Chowdhury, Kaushik Barman, K.R.Ramakrishnan. *Conference on Signal Processing, Communications and Networking, Bangalore, India, 1997.*

Book Chapters

1. "Computational tools for quantitative analysis of cell growth patterns and morphogenesis in actively developing plant stem cell niches", A. Chakraborty, R. Yadav, M. Liu, M. Tataw, K. Mkrtychan, A. Roy-Chowdhury, G. V. Reddy, Plant Signaling Networks (Eds. Z. Wang, Z. Yang), 2012.

2. "Motion Pattern Analysis for Modeling and Recognition of Complex Human Activities", N. Nayak, R. Sethi, B. Song, A. Roy-Chowdhury, in Guide to Video Analysis of Humans: Looking at People (Eds., T. Moeslund, A. Hilton, V. Kruger, L. Sigal), Springer 2011.

3. "Wide Area Tracking in Single and Multiple Views", B. Song, A. Roy-Chowdhury, in Guide to Video Analysis of Humans: Looking at People (Eds., T. Moeslund, A. Hilton, V. Kruger, L. Sigal), Springer 2011.

4. "An Overview of Contest on Semantic Description of Human Activities", M. S. Ryoo, C. Chen, J. K. Aggarwal, A. Roy-Chowdhury, in Recognizing Patterns in Signals, Speech, Images and Videos (Eds. D. Unay, Z. Cataltepe, S. Aksoy), Springer 2010.

5. "Persistent Observation of Dynamic Scenes In An Active Camera Network", B. Song, C. Ding, J. Farrell, A. Roy-Chowdhury, in Distributed Video Sensor Networks, (Eds. B. Bhanu, C. Ravishankar, A. Roy-Chowdhury, H. Aghajan, D. Terzopoulos), Springer, 2010.

6. "Gait Recognition Using Motion Physics in a Neuromorphic Computing Framework", R.J. Sethi, A.K. Roy-Chowdhury, A. Veeraraghavan, in Multibiometrics for Human Identification, (Eds. B. Bhanu and V. Govindaraju), Cambridge University Press, 2010.

7. "Live-Imaging and Image Processing of Shoot Apical Meristems of Arabidopsis thaliana", G. Venugopala Reddy and A. Roy-Chowdhury, Plant Systems Biology (Ed. Dmitry A. Belostotsky), Springer, 2009.

8. "Model-based Multi-view Video Compression Using Distributed Source Coding Principles", J. Nayak, B. Song, E. Tuncel, A. Roy-Chowdhury, Distributed Source Coding: Theory, Algorithms and Applications (Eds. P. Luigi and M. Gatspar), Elsevier, 2009.

9. "Face Tracking", Encyclopedia of Biometrics, Springer, 2009.

10. "Combining Geometrical and Statistical Models for Video-based Face Recognition", A. Roy-Chowdhury and Y. Xu, Biometrics: Theory, Methods and Applications (Eds. N.V. Boulgouris, K.N. Plataniotis, and E. Micheli-Tzanakou), IEEE Press, In Press.

11. "Pose and Illumination Invariant Face Recognition Using Video Sequences", A. Roy-Chowdhury, Y. Xu, Multi-Biometric Systems for Identity Recognition: Theory and Experiments, (Eds. R. Hammoud, M. Abidi and B. Abidi), Springer-Verlag, 2007.

12. “Human Identification Using Face and Gait”, R. Chellappa, A. Roy-Chowdhury, A. Kale, Multimodal Surveillance: Sensors, Algorithms and Systems, (Eds. Zhigang Zhu, Tom Huang), Artech House, 2007.

13. “3D Face Modeling From Monocular Video Sequences”, A. Roy-Chowdhury, R. Chellappa, H. Gupta, Face Processing: Advanced Modeling and Methods (Eds. R.Chellappa and W.Zhao), Academic Press, 2006.

14. “Integrating Motion and Illumination Models for 3D Tracking”, A. Roy-Chowdhury, Y. Xu, Computer Vision for Interactive and Intelligent Environments, (Eds. C. Jaynes and R. Collins), IEEE Press, 2006.

15. “Statistics in Computer Vision and Image Processing”, Rama Chellappa, Amit K. Roy-Chowdhury. Encyclopedia of Statistical Sciences, 2nd Edition, Vol. 2, (Eds. S. Kotz et al), 2005.

16. ”Human Identification Using Gait and Face”, R. Chellappa, A. Roy-Chowdhury, S. Zhou, The Electrical Engineering Handbook, 3rd Ed., (Ed. D. Etter), CRC Press, 2004.

17. ”Gait-Based Human Identification From A Monocular Video Sequence”, A. Kale, A. Roy-Chowdhury, R. Chellappa, Handbook on Pattern Recognition and Computer Vision, 3rd Ed., (Eds. C.H.Cheng and P.S.P.Wang), World Scientific Publishing Company Pvt. Ltd.

Magazine Articles

- “About Face” - National Geographic, November 2003, pp 18-19. (Featured our work on face recognition under variations of pose, illumination and disguise.)

Patents

- “Method of three-dimensional object reconstruction from a video sequence using a generic model”, United States Patent Number 7,184,071, Issued Feb. 27, 2007. (Inventors: R. Chellappa, A. Roy-Chowdhury, S. Srinivasan)

- “A Method and Apparatus for Generating 3D Models from Uncalibrated Views”, US Patent 7289662, Issued Oct. 30, 2007 (Inventors: P. Keaton, A. Roy-Chowdhury).

- “Distributed Multi-target Tracking In A Self-Configuring Camera Network”, US Patent Application 12/819,975, Filing Date: June 21, 2010 (Inventors: B. Song, C. Ding, C. Soto, A. Roy-Chowdhury).