

Amit PANDE

PERSONAL DATA

PLACE AND DATE OF BIRTH: India | 27 January 1987
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WORK EXPERIENCE

Current | *Research Scientist* at DEPARTMENT OF COMPUTER SCIENCE
OCT 2012 | *University of California Davis*

Oct 2012 | *NSF Computing Innovation Fellow* at DEPT. OF COMPUTER SCIENCE
SEPT 2010 | *University of California Davis*

EDUCATION

AUG 2010 | PhD in COMPUTER ENGINEERING,
Iowa State University, Ames, USA
Advisor: Prof. Joseph Zambreno | GPA: 3.91/4.0
Thesis: "Algorithms and Architectures for Secure Embedded Multimedia Systems"

JULY 2007 | B.Tech in ELECTRONICS and COMMUNICATIONS ENGINEERING
Indian Institute of Technology Roorkee, India
Advisor: Prof. Ankush Mittal | GPA: 9.13/10.0
Thesis: "Ensuring Multimedia QoS over Scarce Resource Networks"

RESEARCH INTERESTS

Mobile Health, Big data and applied machine learning, Mobile multimedia, wireless networks, security and privacy.

GRANTS

- Awardee**, "NSF Computing Innovation Fellow: Algorithms and Architectures for Secure Embedded Multimedia Systems" *NSF/ CRA*, \$267,000 (2010-12).
 - Use a blend of signal processing and hardware acceleration to improve performance of video encryption algorithms.
- Investigator**, "initiative for Wireless Health & Wellness" *UC Davis Research Investment in Science & Engineering (RISE)* \$865,000 (2012-15).
 - Utilize novel phone and wearable sensing methods and develop data-driven methods to monitor physical activity, locality, energy characterization and expenditure
 - Design and conduct clinical trials to study the effects of technology and data-informed motivational coaching for health-improvement of individuals
 - Leverage big data analytics to better understand individual and population trends
- PI**, "Data-Driven QoE for Mobile Videos", *NSF CISE Research Initiation Initiative*, \$175,000 (2015-17)
 - Develop big-data methods to estimate quality of visual experience of end user while watching mobile videos (Youtube/ Netflix).

AWARDS

BODYNETS | Awarded Best Paper Award at 8th ACM/ ICST International Conference on Body Area Networks 2013 for work titled "Energy Expenditure Estimation with Smartphone Body Sensors"

UC DAVIS | **Excellence in Postdoctoral Research**, UC Davis, 2012
Award for Excellence in Postdoctoral Research, 1 of 3 recipients. Selected among 21 finalists from a pool of 1000+ postdocs.

VLSID	Design Contest Winner , 25 th IEEE VLSI Design, 2012 Best amongst 24 entries, Title: Hardware Architecture for Pairwise Statistical Significance Estimation in Bioinformatics Problems Co-authored with D. Honbo, A. Agarwal and A. Choudhary
WPMC	Best Paper Award , at 14th International Symposium on Wireless Personal Multimedia Communications 2011 Titled "Investigation of Scalable Video Delivery using H.264 SVC on an LTE Network" Co-authored with graduate students Patrick Mcdonagh and Carlo Vallati.
CRA	Whos Who in CI Fellows , CCC Blog, 2011 Featured on Computing Community Consortium (CCC) Blog "A Who's Who Among the CIFellows" for pursuing groundbreaking research. 11 of 107 NSF Computing Innovation Fellows were featured in this blog in two entries - representing the top CI Fellows who are pursuing ground-breaking computing research ¹
ISU	Zaffarao Award (HM) , Iowa State University, USA 2010 Second student from Electrical and Computer Engineering Department to get this university-wide award in 22 years A committee appointed by the Graduate Dean selects the student whose publishable research record while at ISU is most worthy of this prize.
ISU	Iowa STATEment Maker , ISU Alumni Association, 2010 An honor that recognizes the early personal and professional accomplishments and contributions to society of ISU's young alumnus (graduates under 32 years of age).
CI Fellow	NSF/ CRA Computing Innovation Fellow , CCC/CRA 2010-12 Awarded by NSF/ CRA/ CCC to recent Ph.D. graduates in Computer Science and related fields. About 10 percent of applicants (5 percent of international applicants) were chosen each year.
ISU	Research Excellence Award , Iowa State University, USA 2010 Awarded by ISU to recognize outstanding research accomplishments of graduate students. About top 5% of graduating students are given this distinction.
VLSID	Design Contest Winner -III , 25 th IEEE VLSI Design, 2009 Third best amongst 20 entries, Title: Novel Polymorphic Reconfigurable Hardware Support for Discrete Wavelet Transform Presented with a memento, certificate of merit and a cash prize of 10,000 INR at the awards distribution banquet.
IITR	Institute Silver Medal , Indian Institute of Technology Roorkee Best B.Tech. project in Electronics and Communication Engineering, 2007 Title: Ensuring Multimedia QoS over Scarce Resource Networks.
AETA	Agilent Engineering and Technology Award , India Best B.Tech. project in Electronics and Communication Engineering, 2007 Title: Ensuring multimedia QoS over scarce resource networks Awarded third best project amongst top engineering institutions of India, 2007 Criteria: Innovativeness and relevance to welfare of society
SURA	Summer Undergraduate Research Award , IIT Roorkee Certificate of Merit, 2005 Project Title: Content-adaptive multimedia compression for high end applications
RMO	Regional Mathematics Olympiad Winner , India Awarded third position in Regional Mathematics Olympiad, Uttaranchal, India, 2002 Organized by National Board for Higher Mathematics, Department of Atomic Energy, Government of India.

PEER-REVIEWED PUBLICATIONS

Books

1. **A Pande**, J Zambreno "Embedded Multimedia Security Systems: Algorithms and Architectures" *Springer-Verlag London*, (ISBN: 978-1-4471-4458-8) 2012.

Journal Publications

2. **A Pande**, J Zhu, A Das, Y Zeng, P Mohapatra and J Han, "Using Smartphone Sensors for Improving Energy Expenditure Estimation" *IEEE Journal of Translational Engineering in Health and Medicine (to appear)*.

3. S Miyamoto, S Henderson, **A Pande**, H Young and J Han “Data Are Not Enough: Exploring Sustained Engagement and Healthcare Partnerships in Mobile Health Technology to Support Health Behavior Change” *Journal of Medical Internet Research (JMIR), mhealth and u health*.
4. C Lyu, D Gu, X Zhang, S Suna, Y Zhang, **A Pande**, “SGOR: Secure and scalable geographic opportunistic routing with received signal strength in WSNs”, *In Computer Communications*, (to appear)
5. E Baik, **A Pande**, P Mohapatra “Efficient MAC for Real-time Video Streaming over Wireless LAN”, *ACM Transactions on Multimedia Computing Communications and Applications*, (to appear)
6. S Chen, A Pande, K Zeng, P Mohapatra “Live Video Forensics: Source Identification in Lossy Wireless Networks” *IEEE Transactions on Information Forensics and Security*, vol 10, no. 1 pp. 28-39, Jan 2015.
7. **A Pande**, S Chen, P Mohapatra, J Zambreno “Hardware Architecture for Video Authentication using Sensor Pattern Noise” *IEEE Transactions on Circuits and Systems for Video Technology* vol. 24 no.1 pp. 157-167 2014.
8. **A Pande**, V Ramamurthi, P Mohapatra “Quality Oriented Video Delivery over LTE” *Journal of Computer Science and Engineering, KIISE* vol. 7 no. 3 pp. 168-176 .
9. **A Pande**, P Mohapatra J Zambreno, “Securing Multimedia Content using Joint Compression and Encryption” *IEEE Multimedia*, vol. 20 no. 4 pp 50-61. [pdf](#)
10. **A Pande**, V. Ahuja, R Sivaraj, E Baik and P Mohapatra “Video Delivery Challenges & Opportunities in 4G networks” *IEEE Multimedia*, vol. 20 no. 3 pp. 88-94.
11. D Honbo, **A Pande**, A Chaudhry “Hardware Architecture for Pairwise Statistical Significance Estimation in Bioinformatics Problems” *International Journal of High Performance Systems Architecture* vol. 4, no. 3, pp. 121-131 2013. [pdf](#)
12. P McDonagh, **A Pande**, L Murphy, P Mohapatra “Towards Deployable Methods for Assessment of Quality for Scalable IPTV Services” *IEEE Transactions on Broadcasting* vol. 59, no. 2, pp. 223-237 2013. [pdf](#)
13. S Jana, **A Pande**, A Chan, P Mohapatra “Mobile Video Chat : Issues and Challenges ” *IEEE Communications*, vol. 51, no. 6 2013. [pdf](#)
14. **A Pande**, J Zambreno “A Chaotic Encryption Scheme for Real-time Embedded Systems: Design and Implementation” *Journal of Telecommunication Systems, Springer*, Vol. 52, no. 2. pp. 551-561 2013. [pdf](#)
15. **A Pande**, J Zambreno, P Mohapatra “Comments on arithmetic coding as a non-linear dynamical system” *Communications in Nonlinear Science and Numerical Simulation, CNSNS* vol. 17, no. 12, pp 4536-4543 2012. [pdf](#)
16. **A Pande**, J Zambreno “The Secure Wavelet Transform” *Journal of Real Time Image Processing, Springer* vol. 7 no. 2, pp 131-142 2012. [pdf](#)
17. **A Pande**, J Zambreno “Poly-DWT: Polymorphic Wavelet Hardware Support For Dynamic Image Compression” *ACM Transactions on Embedded Computing Systems* vol. 11 no. 1 pp. 6.1-26 2012. [pdf](#)
18. P Kumar, **A Pande**, A Mittal “Efficient Compression and Network Adaptive Video Transmission For Distributed Video Surveillance” *Multimedia Tools and Applications, Springer*, vol. 56 no. 2 pp. 365-384 2012. [pdf](#)
19. **A Pande**, J Zambreno “Efficient Mapping and Acceleration of Cryptographic Algorithms on Custom Multi-Core Architectures” *Concurrency and Computation: Practice and Experience*, vol. 23 no. 4 pp. 372-389 2011. [pdf](#)
20. G M Rao, P Kumar, V Kumari, **A Pande**, G R Babu “Role of Active Pixels for Efficient Face Recognition on Mobile Environment” *International Journal of Intelligent Information Processing (IJIIIP)* vol. 2 no. 3 pp. 40-51 2011. [pdf](#)
21. **A Pande**, J Zambreno “Reconfigurable hardware implementation of a Modified Chaotic Filter Bank Scheme” *International Journal of Embedded Systems (IJES)* vol. 4 no. 3 pp. 248-258 2010. (invited paper) [pdf](#)
22. A Mittal, **A Pande**, P Kumar “Content-based Network Resource Allocation for Real Time Remote Laboratory Applications”, *Journal of Signal, Image and Video processing, Springer*, vol. 4 no. 2 pp. 263-272, June 2010. [pdf](#)
23. **A Pande**, A Verma, A. Mittal, A. Agrawal “Network Resource Allocation of E-learning Videos for Scalable Video Delivery using Content-based Compression”, *International Journal Signal and Imaging Systems Engineering*, vol. 2 no. 3 pp. 117-125, 2009. [pdf](#)
24. **A Pande**, S. Mittal “BayWave: BAYesian WAVElet-based Image Estimation”, *International Journal Signal and Imaging Systems Engineering*, vol. 2 no. 4, pp 155-162, 2009. [pdf](#)
25. **A Pande**, A Verma, A. Mittal, A. Agrawal “Dynamic Multimedia Content Allocation for Scarce Resource Networks, *International Journal of Advances Media and Communications*”, vol. 3 no.3 pp. 247-259, 2009. [pdf](#)
26. V Arya, A Mittal, **A Pande**, R C Joshi “An Efficient Coding Method For Teleconferencing Video And Confocal Microscopic Image Sequences”, *Journal Of Computing And Information Technology*, vol. 16 no. 3 pp. 145-156, 2008. [pdf](#)

Book Chapters

27. **A Pande**, J Zambreno “Algorithms for Secure Multimedia Delivery over Mobile Devices and Mobile Agents”, *Ubiquitous Multimedia and Mobile Agents: Models and Implementations*, Edited by: Dr. S.Bagchi, IGI Global, USA (2011).
28. P Kumar, **A Pande**, A Mittal, A Mudgal “Distributed Video Coding Framework for Low-Power Mobile Devices and Scarce Resource Networks”, *Ubiquitous Multimedia and Mobile Agents: Models and Implementations*, Edited by: Dr. S.Bagchi, IGI Global, USA (2011).

Conference Publications

29. Y Bao, X Liu, **A Pande** “Data-Guided Approach for Learning and Improving User Experience in Computer Networks” 7th Asian Conference on Machine Learning (ACM ACML) 2015
30. J D Zhu, **A Pande**, P Mohapatra, J J Han, “Using Deep Learning for Energy Expenditure Estimation with Wearable Sensors” 17th International Conference on E-health Networking, Application & Services (IEEE Healthcom) 2015
31. C Lyu, **A Pande**, X Wang, J D Zhu, D Gu, P Mohapatra “CLIP: Continuous Location Integrity and Provenance for Mobile Phones” 12th IEEE International Conference on Mobile Ad hoc and Sensor Systems (MASS) 2015
32. E Baik, **A Pande**, P Mohapatra, “Video Acuity Assessment in Mobile Devices” *IEEE International Conference on Computer Communications (INFOCOM)*, 2015 (to appear).
33. **A Pande**, G Casazza, A Niorici, E Seto, S Miyamoto, M Lange, R Abresch, P Mohapatra and J Han “Energy Expenditure Estimation in Boys with Duchene Muscular Dystrophy using Accelerometer and Heart Rate Sensors” *In IEEE Healthcare Innovations and Point-of-care Technologies Conference*, October 8-10, 2014.
34. R Jin, L. Shi, K Zeng, **A Pande**, P Mohapatra “MagPairing: Exploiting Magnetometers for Pairing Smartphones in Close Proximity ” *IEEE International Conference on Communications and Network Security (IEEE CNS)*, October 29-31, 2014, San Francisco USA.
35. S Jana, **A Pande**, E Baik, P Mohapatra “Improving Mobile Video Telephony” *IEEE International Conference on Sensing, Communications and Networking (IEEE SECON)*, June 30-July 3, 2014, Singapore.
36. S Chen, **A Pande**, P Mohapatra “Sensor-Assisted Facial Recognition: An Enhanced Biometric Authentication System for Smartphones” *The 12th International Conference on Mobile Systems, Applications, and Services (ACM Mobisys)*, June 16-19, 2014, Bretton Woods, NH, USA.
37. **A Pande**, S Chen, P Mohapatra “Architecture for Blocking Detection in Wireless Video Source Authentication”, *27th IEEE International Conference on VLSI Design* January 5-9 2014, Mumbai, India.
38. **A Pande**, Y Zeng, A Das, P Mohapatra, S Miyamoto, E Seto, E Henricson, J Han “Accurate Energy Expenditure Estimation using Smartphone Sensors”, *ACM Wireless Health Conference* November 1-3 2013, Baltimore, USA.
39. O X Wang, J D Zhu, **A Pande**, A Raghuramu, P Mohapatra, T Abdelzaher, R Ganti “STAMP: Ad Hoc Spatial-Temporal Provenance Assurance for Mobile Users”, *21st IEEE International Conference on Network Protocols (IEEE ICNP)*, October 7-11, 2013, Gottingen, Germany.
40. **A Pande**, Y Zeng, A Das, P Mohapatra, S Miyamoto, E Seto, E Henricson, J Han “Energy Expenditure Estimation with Smartphone Body Sensors”, *8th International Conference on Body Area Networks (ICST BODYNETS)*, September 30-October 2, 2013, Boston, USA (Best Paper Award).
41. V Omwando, **A Pande**, Y Zeng, P Mohapatra “Evaluating Perceptual Video Quality for Mobile Clients in 802.11n WLAN”, *8th ACM International Workshop on Wireless Network Testbeds, Experimental Evaluation and Characterization (WINTECH)*, September 30, 2013 Miami, USA.
42. **A Pande**, E Baik, P Mohapatra “Efficient Health Data Compression on Mobile Devices”, *ACM Mobihoc workshop on pervasive healthcare (ACM MobileHealth)* July 29, 2013, Bengaluru, India.
43. S Jana, **A Pande**, A Chan, P Mohapatra “Network Characterization and Perceptual Evaluation of Skype Mobile Videos”, *International Conference on Computer Communications and Networks (IEEE ICCCN)*, July 30 - August 2, 2013, Nassau, Bahamas.
44. R Sivaraj, **A Pande**, P Mohapatra “Spectrum-aware Radio Resource Management for Video Multicast in LTE-A”, *12th IFIP International Conference on Networking (IFIP Networking)*, May 22-24, 2013, Brooklyn, USA.
45. S Chen, **A Pande**, K Zeng, P Mohapatra “Video Source Identification in Lossy Wireless Networks” *32nd IEEE International Conference on Computer Communications (IEEE INFOCOM 2013 mini-conference)*, April 14-19, 2013, Turin, Italy.
46. E Baik, **A Pande**, P Mohapatra “Cross-layer coordination for efficient streaming delivery in LTE eMBMS traffic”, *9th IEEE International Conference on Mobile Adhoc and Sensor Systems (IEEE MASS)*, pp 398-406, October 8-11, 2012, Las Vegas, USA.
47. A Chan, **A Pande**, E Baik, P Mohapatra “Temporal Quality Assessment for Mobile Videos”, *18th Annual International Conference on Mobile Computing and Networking (ACM MOBICOM)*, pp. 221-232, August 22-26, 2012, Istanbul, Turkey.

48. R Sivaraj, **A Pande**, K Zeng, K Govindan, P Mohapatra “Edge-prioritized Channel- and Traffic-aware Uplink Carrier Aggregation in LTE-Advanced Systems” *The Thirteenth International Symposium on a World of Wireless, Mobile and Multimedia Networks* (IEEE WOWMOM) pp. 1-9, June 25-28, 2012, San Francisco, USA.
49. **A Pande**, P Mohapatra, J Zambreno, “ Using chaotic maps for encrypting image/ video content” *IEEE International Symposium of Multimedia* (IEEE ISM), pp. 171-178, December 5-7, 2011, Dana Point, USA. [pdf](#)
50. **A Pande**, V Ramamurthi, P Mohapatra “ Quality-oriented Video delivery over LTE using Adaptive Modulation and Coding” *IEEE Globecom conference, - Communication Software, Services, and Multimedia Applications Symposium*, pp. 1-5 December 2011, Houston, USA. [pdf](#)
51. P Mcdonagh, C Vallati, **A Pande**, P Mohapatra, P A Perry, E Mingozi “Investigation of Scalable Video Delivery using H.264 SVC on an LTE Network” *14th Symposium on Wireless Personal Multimedia Communications* (WPWC), pp. 1-5, October 2011, Brest, France (Best Paper Award). [pdf](#)
52. G M Rao, P Kumar, V Kumari, **A Pande**, G R Babu “An Investigation into the use of Partial Face in the Mobile Environment” *7th International Symposium on Visual Computing*, September 2011. Lecture Notes in Computer Science, vol. 6939/2011, pp. 526-535, Las Vegas, USA. [view](#), [pdf](#)
53. **A Pande**, J Zambreno, P Mohapatra “Architectures for Simultaneous Coding and Encryption Using Chaotic Maps” *IEEE International Symposium on VLSI* (ISVLSI), pp. 351-352, July 2011, Chennai, India. [pdf](#)
54. **A Pande**, J Zambreno, P Mohapatra “Hardware Architecture for Simultaneous Arithmetic Coding and Encryption” *The International Conference on Engineering of Reconfigurable Systems and Algorithms* (ERSA), July 2011, Las Vegas, USA. [pdf](#)
55. **A Pande**, S Lakshminarasimhan, P Kumar “A Parallel Hardware and Software Implementation of Authenticated Encryption”, *IEEE International Conference on Digital Convergence*, pp. 210-214 February 2011, India.
56. S Mittal, **A Pande**, L Wang, P Kumar “Design Exploration and Implementation of Simplex Algorithm over Reconfigurable Computing Platforms”, *IEEE International Conference on Digital Convergence*, pp. 204-209 February 2011, India.
57. P Kumar, **A Pande**, A Mudgal, A Mittal, P Mohapatra “Distributed Video Surveillance Using Mobile Agents”, *IEEE International Conference on Digital Convergence*, pp. 199-204 February 2011, India.
58. **A Pande**, J Zambreno, P Mohapatra “Joint Video Compression and Encryption Using Arithmetic Coding and Chaos”, *IEEE International Conference on Internet Multimedia Systems Architecture and Applications*, December 17-19, 2010, Bangalore, India. [pdf](#)
59. **A Pande**, J Zambreno “Design and Hardware Implementation of a Chaotic Encryption Scheme for Real-time Embedded Systems”, *IEEE International Conference on Signal Processing and Communications*, pp. 1-5, July 18-21, 2010, Bangalore, India. [pdf](#)
60. **A Pande**, J Zambreno “A Reconfigurable Architecture for Secure Multimedia Delivery”, *In: Proceedings of 23rd IEEE International Conference on VLSI Design* (IEEE VLSID), pp. 258-263, January 3-7, 2010, New Delhi, India. [pdf](#)
61. **A Pande**, J Zambreno “Efficient Translation of Algorithmic Kernels on Large-Scale Multi-Cores”, *In: Proceedings of Intl. Work. Reconfigurable and Multicore Embedded Systems, IEEE Intl. Conf. Computational Science and Engineering* vol. 2 pp. 915-920, August 29-31, 2009, Vancouver, Canada. [pdf](#)
62. **A Pande**, J Zambreno “An Efficient Hardware Architecture for Multimedia Encryption and Authentication using Discrete Wavelet Transform”, *In: Proceedings of IEEE International Symposium on VLSI* (ISVLSI) pp. 85-90, May 2009, Tampa, USA. [pdf](#)
63. **A Pande**, A Mudgal “Developing Low-Power Systems for Automated Traffic Monitoring”, *In: Mid-Continent Transportation Symposium*, (poster paper) August 2009, Ames, IA, USA.
64. **A Pande**, J Zambreno “Polymorphic Wavelet Architecture Over Reconfigurable Hardware”, *In: Proceedings of Field Programmable Logic and Applications* (IEEE FPL) pp. 471-474, September 2008, Heidelberg, Germany. [pdf](#)
65. **A Pande**, J Zambreno “Design And Analysis Of Efficient Reconfigurable Wavelet Filters”, *In: Proceedings of IEEE International Conference on Electro/ Information Technology* (IEEE EIT) pp. 337-342, May 2008, Ames, IA, USA. [pdf](#)
66. **A Pande**, A Mittal, A Verma, P Kumar “Meeting Real-time Requirements For A Low Bitrate Multimedia Encoding Framework,” *In: Proceedings of IEEE International Conference on Electro/ Information Technology* (IEEE EIT) pp. 268-271, May 2008, Ames, IA, USA. [pdf](#)
67. P Kumar, **A Pande**, A Mittal, P Kumar “Content-Based Network Adaptive Wireless Transmission Of Remote Surveillance Video”, *In: National Conference on Communications* (NCC) February 2008, Mumbai, India.
68. **A Pande**, A Verma, A Agarwal, A Mittal “Network Aware Efficient Resource Allocation For Mobile-Learning Video Systems”, *In: Proceedings of 6th international conference on mobile Learning (mlearn)*, pp. 210-217, October 2007, Melbourne, Australia. [pdf](#)

69. A Mittal, A Pande, P Kumar "Content-based Network Resource Allocation For Mobile Engineering Laboratory Applications", In: *Proceedings of 6th international conference on mobile Learning (mlearn)*, pp. 162-169, , October 2007, Melbourne, Australia. [pdf](#)
70. A Sood, D Sarthi, A Pande, A Mittal "A Novel Rate-Scalable Multimedia Service For E-Learning Videos Using Content-Based Wavelet Compression", In: *Proceedings of IEEE Annual India Conference (IEEE INDICON)* pp. 1-6, September 2006, New Delhi, India. [pdf](#)
71. A Pande, A Mittal, A P Singh "A Magnitude Order Compression Framework For E-learning Videos", In: *National Conference on Emerging Trends in Computer and Electronics For Rural Development*, pp. 234-237, May 2006, Durg, India.

SCIENTIFIC PRESENTATIONS/ TALKS

1. User and Device Authentication in Mobile Videos *University of Illinois at Urbana-Champaign, Coordinated Science Lab*, September, 2014, IL, USA.
2. Sensor-Assisted Facial Recognition: An Enhanced Biometric Authentication System for Smartphones (with S Chen and P Mohapatra) *The 12th International Conference on Mobile Systems, Applications, and Services (ACM Mobisys)*, June 16-19, 2014, Bretton Woods, NH, USA.
3. Personalized Health & Wellness Monitoring *University of Massachusetts, Amherst, USA*, 15 May 2014.
4. Hardware Architecture for Pairwise Statistical Significance Estimation in Bioinformatics Problems (with D. Honbo, A. Agarwal and A. Choudhary), *25th International onference on VLSI Design*, 11 January 2012, Hyderabad, India.
5. Using Chaotic Maps for Encrypting Image and Video Content (with P. Mohapatra and J. Zambreno) *IEEE International Symposium on Multimedia*, December 2011, Dana Point CA, USA.
6. Joint Video Compression and Encryption Using Arithmetic Coding and Chaos (with J. Zambreno and P. Mohapatra) *IEEE International Conference on Internet Multimedia Systems Architecture and Applications*, December 2010, Bangalore, India.
7. Design and Hardware Implementation of a Chaotic Encryption Scheme for Real-time Embedded Systems (with J. Zambreno) *8th IEEE International Conference on Signal Processing and Communications* July 20, 2010, Bangalore, India.
8. Algorithms and Architectures for Secure Embedded Multimedia Systems, *Thesis defense* May 05, 2010, Electrical and Computer Engineering, Iowa State University, USA.
9. A Reconfigurable Architecture for Secure Multimedia Delivery, (with J. Zambreno) *23rd IEEE International Conference on VLSI Design* Jan. 5, 2010, Bangalore, India.
10. Empowering Embedded Multimedia Systems for Real-time Security, *Graduate Seminar* Oct. 19, 2009, Electrical and Computer Engineering, Iowa State University, USA.
11. An Efficient Hardware Architecture for Multimedia Encryption and Authentication using Discrete Wavelet Transform, (with J. Zambreno) *IEEE International Symposium on VLSI* May 14, 2009, Tampa, FL, USA.
12. Novel Polymorphic Reconfigurable Hardware Support for Discrete Wavelet Transform, (with J. Zambreno) *22nd IEEE International Conference on VLSI Design* Jan. 6, 2009, New Delhi, India.
13. Acceleration and Efficiency Exploration of Cryptographic Kernels on Multi-Core Processing Platforms, (with J. Zambreno) *Center for Information Protection*, Nov. 19, 2008, Ames, IA, USA.
14. Design And Analysis Of Efficient Reconfigurable Wavelet Filters, *IEEE Intl. Conf. EIT* May 21, 2008, Ames, IA, USA.
15. Meeting Real-time Requirements For A Low Bitrate Multimedia Encoding Framework, (with A Mittal, A Verma, P Kumar) *IEEE Intl. Conf. EIT* May 21, 2008, Ames, IA, USA.
16. A Novel Rate-Scalable Multimedia Service For E-Learning Videos Using Content-Based Wavelet Compression, (with A. Mittal, A. Sood and D. Sarthi) *IEEE Annual India Conf. INDICON*, 17 Sep. 2006, New Delhi, India.

STUDENT SUPERVISION/ COLLABORATION

Victor Omvando, 2013 (M.S. Committee, adviser - P. Mohapatra)

Carlo Vallati, *University of Pisa, Italy*. 2010

An Jack Chan, *University of California Davis*. 2011-2012

Andrew Clark, *University of Washington, Seattle*. 2011-12

Patrick McDonagh, *University College Dublin, Ireland*. 2011-2012

Rajarajan Sivaraj, *University of California Davis*. 2011-13

Oscar Xinlei Wang, *University of California Davis*. 2012-13

Shaxun Chen, *University of California Davis*. 2012-13

Vishal Ahuja, *University of California Davis*. 2012-13
Aveek Das, *University of California Davis*. 2013
Shraboni Jana, *University of California Davis*. 2011-2014

Chris Stover, *University of California Davis*. 2012-present
Eilwoo Baik, *University of California Davis*. 2010-present
Jindan Zhu *University of California Davis*. 2012-present
Yunze Zeng, *University of California Davis*. 2013-present

STUDENT AWARD

- IEEE Communication Society *Communication Technology Changing Lives Award* 2013 - Honorable Mention - to student Eilwoo Baik.

PROFESSIONAL ACTIVITIES/ SERVICE

1. *Poster Session Chair*, 4th Intl. Conf. Internet Multimedia Systems Algorithms and Architectures, 2010.
2. *Panelist and Reviewer*, National Science Foundation (NSF) CISE/CNS/CSE program, 2011.
3. *Program Committee Member*, 24th International Conference on VLSI Design, 2011.
4. *Program Committee Member*, IEEE Computer Society Annual Symposium on VLSI, 2011.
5. *Program Committee Member*, 25th International Conference on VLSI Design, 2012.
6. *Program Committee Member*, 2nd IEEE Conference on Communications and Network Security (CNS), 2014.
7. *Technical Program Co-chair*, RA-WERHA 2014: The First International Workshop on Recent Advances in WBANs Design and Deployment for Real-time and Healthcare Applications, with IEEE CCNC 2015.
8. *Program Committee Member*, SECON 2015: IEEE International Conference on Sensing, Communication and Networking
9. *Program Committee Member*, SCSE 2015: International Conference on Soft Computing and Software Engineering, UC Berkeley, USA.

Reviewer for journals: EURASIP Journal of Embedded Systems, EURASIP Journal on Wireless Communications and Networking, IEEE Transactions on Broadcasting, IEEE Transactions on Circuits and Systems - II (TCAS-II), IEEE Transactions on Circuits and Systems for Video Technology (T-CSVT), IEEE Transactions on Industrial Electronics (T-IE), IEEE Transactions on Information Forensics and Security (T-IFS), IEEE Transactions on Mobile Computing (TMC), IEEE Transactions on Multimedia (TM), IEEE Transactions on Vehicular Technology (T-VT), IEEE Journal of Selected Topics in Signal Processing (JSTSP), Intl. J. Signals and Imaging Systems Engineering, Wiley Interscience - Concurrency and Computation: Practice and Experience, WSEAS Journal Transaction on Signal Processing.

Reviewer for Book: K. Gopalakrishnan, N. O. A. Okine, H. Ceylan, *Intelligent And Soft Computing In Infrastructure Systems Engineering*, Springer Studies in Computational Intelligence (SCI), Vol. 259.

Reviewer for Conferences: ICC-WCS 2011, VLSI Design 2011, ISVLSI 2011, VLSI Design 2012, ICNP 2013, BDSE 2013, VLSI Design 2014, ICDM 2014.

REFERENCES

Dr. Prasant Mohapatra
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Dr. Joseph Zambreno
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[UC Davis, Sacramento, CA](#)
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