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### Conference Publications

1. Soma Bandyopadhyay; Arpan Pal; Abhijan Bhattacharyya; "ITS-light: Adaptive lightweight scheme to resource optimize intelligent transportation tracking system (ITS): Customizing CoAP for opportunistic optimization", The Tenth Annual International Conference on Mobile and Ubiquitous Systems: Computing, Networking and Services (Mobiquitous), Dec. 2013
2. Soma Bandyopadhyay; Arpan Pal; Abhijan Bhattacharyya; "Adapting Protocol Characteristics of CoAP Using Sensed Indication for Vehicular Analytics", Poster in Sensys 2013, Nov. 2013
3. AD Choudhury, A Visvanathan, R Banerjee, A Sinha, A Pal, C Bhaumik, A Kumar, "HeartSense: estimating blood pressure and ECG from photoplethysmograph using smart phones", Proceedings of the 11th ACM Conference on Embedded Networked Sensor Systems, 88
4. Chirabrata Bhaumik, Rohan Banerjee, Aiswarya Visvanathan, Anirban Dutta Choudhury, Aniruddha Sinha, Arpan Pal, "HeartSense: Estimating Blood Pressure and ECG from Photoplethysmograph using Smart Phones", Demo in Sensys 2013, Nov. 2013
5. Aiswarya Visvanathan; Aniruddha Sinha; Arpan Pal; "Estimation of Blood Pressure Levels from Reflective Photoplethysmograph using Smart Phones", BIBE 2013, Oct. 2013
6. Rohan Banerjee, Aniruddha Sinha; Arpan Pal; "Estimation of ECG Parameters using Photoplethysmography", BIBE 2013, Oct. 2013
7. Arijit Ukil; Soma Bandyopadhyay; Arpan Pal; Abhijan Bhattacharyya; "Lightweight Security Scheme for Vehicle Tracking System Using CoAP", ASPI-workshop@UBICOMP 2013, Sept 2013
8. Swarnava Dey; Himadri Sekhar Paul; Arijit Mukherjee; Arpan Pal; "Challenges of using Edge devices in IoT computation grids", IOTT Workshop @ Joint Japan-India Workshop on Cyber Security and 19th IEEE International Conference on Parallel and Distributed Systems (ICPADS).
9. Arpan Pal; Tanushyam Chattopadhyay; Aiswarya Visvanathan; Anirban Dutta Choudhury; Aniruddha Sinha; "A Robust Heart Rate Detection using Smart-phone Video", MobileHealth Workshop in Mobihoc, August 2013 in Bangalore India

10. Dhiman Chattopadhyay, Ranjan Dasgupta and Arpan Pal, "Sensor Data Modeling for Smart Meters - A Methodology to Compare Different Systems", International Conference on Computing, Networking and Communications (ICNC 2013), San Diego, USA during 28-31 January, 2013.
11. Arijit Sinharay, SM Bilal, Arpan Pal, Aniruddha Sinha, "Low Computational Approach for Road Condition Monitoring Using Smartphones", Computer Society of India (CSI) Annual Convention, Theme: Intelligent Infrastructure, Dec 1 to 2, 2012, in Kolkata, India
12. S Bilal, Krishnan S, Arpan Pal, Balamuralidhar P, A Smart Transport Application of Cyber-Physical Systems: Road Surface Monitoring with mobile devices", 6th International Conference on Sensing Technology (ICST 2012), Kolkata. India, Dec 19 to 21, 2012
13. Arindam Saha, Aniruddha Sinha, Arindam Halder, Sounak Dey, Abhishek Mishra, Somnath Ghoshdastidar, Arpan Pal, "A Distance Education System for Internet Broadcast Using Tutorial Multiplexing", Third Euro ITV Workshop on Interactive Digital TV in Emergent Economies at (EuroITV 2012) Conference, Berlin, Germany, July 4-6, 2012.
14. Arindam Saha, Aniruddha Sinha, Arpan Pal, Anupam Basu, "User experience in multiplexing of Tutorials in Distance Education", (EdMedia 2012) World Conference on Educational Media and Technology, Denver, Colorado, USA, June 26-29, 2012
15. Arijit Mukherjee, Arpan Pal and Prateep Misra, "Data Analytics in Ubiquitous Sensor-based Health Information Systems", International Workshop on Technologies and Applications for Smart Cities (I-TASC '12 ), co-hosted with The 6th International Conference on Next Generation Mobile Applications, Services and Technologies (NGMAST2012), Paris, France, September 12-14, 2012
16. Arindam Saha, Aniruddha Sinha, Arpan Pal, Anupam Basu, "Multiplexing of Tutorials in Distance Education using TV Broadcast Network", The 4th International Conference on Computer Supported Education ( CSEDU 2012 ) Porto, Portugal, 16- 18 April, 2012
17. Avik Ghose, Provat Biswas, Chirabrata Bhaumik, Monika Sharma, Arpan Pal and Abhinav Jha, "Road Condition Monitoring and Alert Application", IEEE Pervasive Computing and Communication (PerCom 2012), Lugano, Switzerland, March 19 - 23, 2012
18. Aniruddha Sinha, Anupam Basu, Arindam Saha and Arpan Pal, "Novel Approach in Distance Education using Satellite Broadcast", 3rd International Conference on e-Education, e-Business, e-Management and E-Learning (IC4E 2012), 5-7 January 2012, Hong Kong.
19. Sujal Wattamwar, Tavleen Oberoi, Hiranmay Ghosh, Gautam Shroff, Arpan Pal, Ranjan Dasgupta and Kingshuk Chakravarty, "Asynchronous Interaction", ACM MTDL 2011 (ACM MM2011) Scottsdale, Arizona, Nov 28 to Dec. 1, 2011.

20. Tanushyam Chattopadhyay, Aniruddha Sinha, Arpan Pal, "TV Video Context Extraction", Trends and Developments in Converging Technology towards 2020 (TENCON 2011), Bali, INDONESIA , November 21-24, 2011.
21. T. Chattopadhyay, Aniruddha Sinha, Arpan Pal, "Extraction of Contextual Web Information from TV Video", EuroITV, Lisbon, Portugal, June 29 – July 2, 2011,
22. Arpan Pal, Debatri Chatterjee, Debnarayan Kar, "Evaluation and Improvements of on-screen keyboard for Television and Set-top Box", ISCE, Singapore, June 14-17, 2011
23. Arijit Sinharay, Arpan Pal, Brojeswar Bhowmick, "A Kalman Filter Based Approach to De-noise the Stereo Vision Based Pedestrian Position Estimation", UKSim 2011, Cambridge, UK, March 30 – April 1, 2011
24. T. Chattopadhyay, Aniruddha Sinha, Arpan Pal, Debabrata Pradhan, Soumali Roychowdhury, "Recognition of Channel Logos From Streamed Videos for Value Added Services in Connected TV", ICCE 2011, Las Vegas, USA , Jan 9-12, 2011.
25. Arpan Pal, Chirabrata Bhaumik, Jasma Shukla, Subrata Kolay, "Energy Information Gateway for Home", ISMS 2011, Kuala Lumpur, Malaysia, Jan 24-25, 2011
26. Soma Bandyopadhyay, Arpan Pal, Shameem Nadaf 'A Novel Bandwidth Aggregation System Using Multiple Physical Links' ICCAIE 2010, 5 - 7 December, 2010 in Kuala Lumpur, Malaysia
27. T. Chattopadhyay, Sounak Dey, Pritha Bhattacharya, Arpan Pal, "Electronic Program Guide for RF fed TV Channels", EMS, Pisa, Italy, 17-19 Nov. 2010.
28. Arpan Pal, Chirabrata Bhaumik, "Low-Cost Remote Medical Diagnosis and Consultation", CEWIT, Incheon, Korea, 27th to 19th September, 2010
29. T. Chattopadhyay, Arpan Pal, Utpal Garain, "Mash up of Breaking News and Contextual Web Information: A Novel Service for Connected Television", Proc. Of ICCCN 2010 Workshop on Multimedia Computing and Communications (MCC 2010), August 2010, Zurich, Switzerland.
30. Arpan Pal, M. Prashant, Avik Ghose, Chirabrata Bhaumik. "Home Infotainment Platform – A Ubiquitous Access Device for Masses", International Conference on Ubiquitous Computing and Multimedia Applications (UCMA), Miyazaki, Japan, 2010.
31. T. Chattopadhyay, Ayan Chaki, Dhiman Chattopadhyay, Nandini Chatterjee and Arpan Pal, "A Novel Value Added Interactive Services for Active Pages of DTH Set Top Boxes," Experience

workshop in 3rd International International Conference on Pattern Recognition and Machine Intelligence (Premi'09), December 2009, Delhi, India

32. Arpan Pal, Chirabrata Bhaumik, Debnarayan Kar, Somnath Ghoshdastidar, Jasma Shukla. A Novel On-Screen Keyboard for Hierarchical Navigation with Reduced Number of Key Strokes, IEEE International Conference on Systems, Man, and Cybernetics (SMC), San Antonio, Texas, 2009.
33. Dhiman Chattopadhyay, Aniruddha Sinha, T. Chattopadhyay, Arpan Pal. Adaptive Rate Control for H.264 Based Video Conferencing Over a Low Bandwidth Wired and Wireless Channel, IEEE International Symposium on Broadband Multimedia Systems and Broadcasting, Bilbao, Spain, May, 2009
34. T. Chattopadhyay, Arpan Pal, Somdutta Banerjee. Two fold video encryption technique applicable to H.264 AVC, TACTICS Journal, April, 2009.
35. T. Chattopadhyay and Arpan Pal. Two fold video encryption technique applicable to H.264 AVC, IEEE International Advance Computing Conference, March, 2009, Page(s) 785-789, Patiala, India
36. Tanushyam Chattopadhyay, Ayan Chaki, Brojeshwar Bhowmick, Arpan Pal. An Application for Retrieval of Frames from a Laparoscopic Surgical Video Based on Image of Query Instrument, TENCON 2008, Hyderabad, India
37. T.Chttopadhyay and Arpan Pal, "A Survey on Video Security with Focus on H.264: Steganography, cryptography and watermarking techniques," Proc. of the 2nd National Conference on Recent Trends in Information System (ReTIS), Page(s) 63-67, Kolkata, India, 2008.
38. Tanushyam Chattopadhyay, Provat Biswas, Biswanath Saha and Arpan Pal. Gesture Based English Character Recognition for Human Machine Interaction in Interactive Set top box Using Multi factor analysis, Sixth Indian Conference on Computer Vision, Graphics and Image Processing, ICVGIP, Bhubaneswar, India , 2008.
39. T.Chttopadhyay and Arpan Pal, "Watermarking for H.264 Video, [http://www.embedded.com/columns/technicalinsights/202805174?\\_requestid=287915](http://www.embedded.com/columns/technicalinsights/202805174?_requestid=287915), Embedded Systems Design, Video Imaging Design Line, EE Times, Nov, 2007
40. Tanushyam Chattopadhyay and Arpan Pal. Testing of Video Watermarking Technique against Attacks, Pratyaya, May 2007.
41. Arpan Pal, T. Chattopadhyay. A Novel, Low-Complexity Video Watermarking Scheme for H.264, Texas Instruments Developers Conference, Dallas, Texas, March 2007, <http://focus.ti.com/lit/ml/sprp598/sprp598.pdf>

42. Dr. B. S. Adiga, Arpan Pal. Using Multimedia, Wireless and Sensor Technology to Develop Novel Healthcare Solutions, Texas Instruments Developers Conference, Dallas, Texas, March 2007
43. Sourav Bhattacharya, T. Chattopadhyay, Arpan Pal. A Survey on Different Video Watermarking Techniques and Comparative Analysis with Reference to H.264/AVC, ISCE (International Symposium on Consumer Electronics). Russia, June 2006.
44. T. Chattopadhyay, Somdutta Banerjee, Arpan Pal. Enhancements of H.264 Encoder performance for video conferencing and videophone applications in TMS320C55X, ISCE (International Symposium on Consumer Electronics). Russia, June 2006.
45. Soma Bandyopadhyay, Arpan Pal. Generic Framework Architecture For Expediting Development of Layer 2 MACs, TACTICS, TCS, Hyderabad, December, 2005.
46. Arpan Pal, Srinivasa Rao Ch., Suvra Sekhar Das, Balamuralidhar P. 1, Harish Reddy. Enhancement of Security of Wireless Networks using Physical Layer Protection, International Wireless Summit (IWS), Aalborg, Denmark, September, 2005.
47. Arpan Pal, Batsayan Das, Suvra Sekhar Das. Physical Layer Encryption for Wireless Networks, TACTICS, Hyderabad, November, 2004.
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49. Dr. R.V. Rajakumar, Arpan Pal. Theory, Performance and Design Issues in OFDM systems, Tutorial Session in NCC, IISc. Bangalore, India, January, 2004.
50. A Pal, V Harikrishna, NR Rao, JV Prasad et. al., Millimetric Wave Seeker for Third Generation Antitank Guided Missiles, Defence Science Journal 1995, publications.drdo.gov.in

## Book Chapters and Journals

1. Arpan Pal, Aniruddha Sinha and Tanushyam Chattopadhyay (2010), Recognition of Characters from Streaming Videos, Character Recognition, (Ed.), ISBN: 978-953-307-105-3, Sciyo, Available from: <http://sciyo.com/articles/show/title/recognition-of-characters-from-streaming-videos>

2. Arpan Pal, M. Prashant, Avik Ghose, Chirabrata Bhaumik. "Home Infotainment Platform – A Ubiquitous Access Device for Masses", published by Springer as Book Chapter in COMMUNICATIONS IN COMPUTER AND INFORMATION SCIENCE, Volume 75, 2010, Book Name - Ubiquitous Computing and Multimedia Applications, Pages 11-19, DOI: 10.1007/978-3-642-13467-8, ISBN 978-3-642-13466-1 (Print) 978-3-642-13467-8 (Online)
3. Arindam Saha, Aniruddha Sinha, Arpan Pal, Anupam Basu - "Embedding Metadata in Analog Video Frame for Distance Education", International Journal of e-Education, e-Business, e-Management and e-Learning (IJEEEE), Volume 2, Number 1, Article# 3 on Page #11, February 2012.
4. Debatri Chatterjee, Aniruddha Sinha, Arpan Pal, Anupam Basu,, "An Iterative Methodology to Improve TV Onscreen Keyboard Layout Design Through Evaluation of user Study", Journal of Advances in Computing, Vol.2, No.5, October 2012), Scientific and Academic Publishing (SAP), p-ISSN:2163-2944, e-ISSN:2163-2979.
5. Arpan Pal, Ramjee Prasad, Rohit Gupta, "A low-cost Connected TV platform for Emerging Markets – Requirement Analysis through User Study", IRACST – Engineering Science and Technology: An International Journal (ESTIJ), ISSN: 2250-3498, Vol.2, No.6, December 2012
6. Arpan Pal, "NOVEL APPLICATIONS FOR EMERGING MARKETS USING TELEVISION AS A UBIQUITOUS DEVICE", 2013, PhD. Thesis, Dept. of Electronic Systems, Aalborg University, Denmark, ISBN 978-87-7152-005-7, [http://vbn.aau.dk/en/publications/novel-applications-for-emerging-markets-using-television-as-a-ubiquitous-device\(68e52a8b-7fe7-454e-aa6a-1314c7a8e927\).html](http://vbn.aau.dk/en/publications/novel-applications-for-emerging-markets-using-television-as-a-ubiquitous-device(68e52a8b-7fe7-454e-aa6a-1314c7a8e927).html)
7. Soma Bandyopadhyay; Arpan Pal; "Interopeartion among IoT standrards", Journal of ICT Standardization - Volume 1, No.2, GISFI, River Publishers
8. Balamurali P, Prateep Misra, Arpan Pal, "Software Platforms for Internet of Things and M2M", Journal of the Indian Institute of Science, A Multidisciplinary Reviews Journal ISSN: 0970-4140 Coden-JIISAD, VOL 93:3 Jul.–Sep. 2013, <http://journal.iisc.ernet.in/index.php/iisc/article/view/1907>
9. R Dasgupta, D Chattopadhyay, A Pal, T Chakravarty, "A Comprehensive Seven Layer Sensor Model: Cyber-Physical System" Journal of Sensing Technology: Current Status and Future Trends, Springer, 2014