

Santhosh Kumar G

CONTACT INFORMATION	Professor Department of Computer Science Cochin University of Science and Technology Cochin, Kerala 682 022 India	<i>Voice:</i> (+91) (484) 2577126-2306 <i>Fax:</i> (+91) (484) 2577087 <i>E-mail:</i> san@cusat.ac.in <i>WWW:</i> MyHome
EDUCATION	Cochin University , Cochin, Kerala India Ph.D., Faculty of Technology, October 2011 <ul style="list-style-type: none">• Dissertation Topic: “Energy-Efficient Cluster based Routing Schemes for Static and Mobile Sensor Networks”• Advisor: K. Poullose Jacob M.Tech., Computer and Information Science, 1999 M.Phil., Physics, 1997 M.Sc., Physics, 1995 M.G. University , Kottayam, Kerala India B.Sc., Physics, 1992	
PROFESSIONAL EXPERIENCE	Department of Computer Science, Cochin University of Science and Technology , Cochin, Kerala, India <i>Professor</i> March, 2017 - till date <i>Associate Professor</i> March, 2014 - March, 2017 date <i>Assistant Professor</i> March, 2001 - March, 2014 Tao Information Technology , Bangalore, India <i>Senior Analyst Programmer</i> January, 2000 - February, 2001 Infortech SDN, BHD , KL, Malaysia <i>Analyst Programmer</i> July, 1999 - December, 1999 Worked for R& D division of Fujitsu, Japan	
RESEARCH INTERESTS	Cyber Physical Systems, Computer Vision, Data Science, NLP	
HONORS RECEIVED	<i>Visiting Scholar</i> , School of Electronics, Electrical Engineering and Computer Science, Queen’s University, Belfast, United Kingdom from 26-05-2023 - 25-05-2026	
ADMINISTRATIVE RESPONSIBILITIES	<i>Member</i> , Syndicate, Cochin University from 17-04-2023 - till date <i>Hon. Director</i> , Center for Information Resource Management, Cochin University from 17-06-2015 - till date <i>Chairman</i> , Board of Studies, Computer Science, Cochin University from 07-05-2019 to till 02-08-2023 <i>Head</i> , Department of Computer Science, Cochin University from 21-04-2017 - 28-04-2020 (3 Year tenure)	

Member, Board of Governance & Executive Committee, CDiT, Thiruvananthapuram from 05-01-2019 till date

Member, Senate, Cochin University from 21-04-2017 to 20-04-2020 (3 Year tenure)

Member, Board of Studies, Computer Applications, Manonmaniam Sundaranar University from 26-02-2020 to till date

Member, Board of Studies, Computer Applications, Cochin University from 07-05-2019 to till date

PROFESSIONAL ACTIVITIES

Organizer CUSAT INID School on Medical Images Understanding, February 27 - March 03, 2023

Publication Chair, 2022 Annual IEEE India Conference (INDICON), CUSAT, November 2022

Chair, Educational Activities Committee, IEEE Kerala Section, from January 2022- Dec 2022

Coordinator, ATAL FDP on Machine Learning for Interdisciplinary Engineering Applications, 12-23, September 2022

Chair, IEEE Kochi Subsection, from January 2020- December 2021

Coordinator, ATAL FDP on Internet of Things, 02-06, February 2021

Organizing Chair, Int.Conf.on Data Science and Engineering (ICDSE), Kochi, December 2020

General Chair, Int.Conf. on Data Science and Engineering (ICDSE), IIT Patna, Septemeber 2019

Organizing Secretary, ACM India Annual Event, Kochi, February 2019

Organizing Chair, IEEE Int.Conf. on Data Science and Engineering (ICDSE), Kochi, August 2018

Org. Member, 6th National Conference on Indian Language Computing, Kochi, March 2018

Organizing Secretary, 6th National Conference on Software Engineering, Kochi, March 2018

Publication Chair, IEEE 2017 Region 10 Symposium (Tensymp), Kochi, July 2017

Organizing Secretary, IEEE Int.Conf. on Data Science and Engineering (ICDSE), Kochi, July 2016

Co-ordinator for Kochi, Indian Computing Olympiad 2015,2016,2017,2018,2019,2020,2022

Associate of Institute of Mathematical Science, Chennai, Tamilnadu, 2006-2008

GRANTS RECEIVED Principal Investigator, *Building Energy-Efficient Home Plans for Smart Cities*, RUSA 2.0 **June 2023- June 2025**, INR 64,00,000.00

Co-Project Investigator, *Responsible Disinformation Detection with an Emphasis on Global South*, Queen's University, Belfast, UK, **July 2022- June 2023**, £9,950.00

Principal Investigator, International Network for Image-based Diagnosis, INTPART, Research Council of Norway, (Partners: NTNU, Norway, Hainan University, China, University of Pennsylvania, USA, University of Aizu, Japan), **2020-2023**, INR 4,50,00,000

Co-Project Investigator, SPARC Project of MHRD, India (Main partner: IIIT Delhi, Other partners: Queen's University, Belfast, UK, and Nanyang Technological University, Singapore), **2019-2021**, INR 68,99,000

Received INR. 42,00,000 from DST under FIST program India for the development of WSN testbed in the department, 2012-2017

CONSULTANCY WORKS

Online Learning Management System for St. Treasa's College, Kerala **October 2020**

Intelligent Archiving System for Kerala Police **July 2020**

SUPERVISION (PHD STUDENTS)

Suresh Kumar N:*Thesis Title* "Building Design Artifacts for Formal Modelling and Verification of IoT Protocols", **13 March 2024**

Shimmi Asokan:*Thesis Title* "Formal Modeling and Verification of Clock Synchronization Algorithms of In-Vehicle Networks in Automotive Systems", **13 February 2024**

Muhammed Anees V: *Thesis Title* “Modelling Crowd Patterns and Detection of Abnormal Behaviours from High Density Videos Using Computer Vision Techniques”, **15 June 2023**
Kochaleema KH: *Thesis Title* “Verification and Validation of Temporal Models in Safety Critical Software Development Cycle A Unified Modeling Language Approach”, **31 March 2023**
Namitha K: *Thesis Title* “Learning concept drift and recurrence from data streams a clustering approach”, **09 August 2021**
Mary Priya Sebastin: *Thesis Title* “An improved phrase based english malayalam machine translation system using refined bilingual alignments”, **13 July 2021**
Saritha S: *Thesis Title* “Mining colocation patterns and change detection in spatiotemporal data a tensor factorization approach”, **28 May 2020**

INVITED TALKS
(SELECTED)

Physics Informed Neural Networks, Technical Session, CONCLAVE 2025 , Kannur University **May 28, 2025**
Generative AI: Research Perspectives, Technical Session, Workshop on Generative AI, Dept. of Computer Science, CUSAT **August 1, 2024**
Science of AI, Keynote address, ACPI 46th Annual Research Semina, Little Flower Seminary, Aluva Kerala **October 21-23, 2023**
Cyber Physical Systems for edge computing, Keynote address, Faculty Development Program on Edge based IOT for industrial Applications, Jyothi Engineering College, Thrissur, Kerala **January 19-23, 2023**
Mathematics of Deep Learning, Invited Talk, Faculty Development Program on Mathematical Foundations of AI and Data Science, Muthoot Institute of Technology and Science, Kerala **June 23-25, 2021**
Machine Learning Applications for Big Data Analytics, Invited Talk, Faculty Development Program on Data Analytics, College of Engineering, Kigangoor, Kerala **February 17 2021**
Mathematical Perspectives of Data Science, Invited Talk, Faculty Development Program on Mathematics for Data Science, Muthoot Institute of Tecnology and Science, Kerala **August 14 2020**
Spatiotemporal Data Mining: Research frontiers, Invited Talk, Faculty Development Program on Data Science for Web and Social Media, IIITD, Delhi **Feb 28 - 03 March 2020**
Trends in Teaching, Learning and Research, Invited Talk, RUSA Sponsored FDP on MOOCs, Moodle and e-Content Development, M A College, Kothamangalam, Kochi **16 December 2019**
Fake News Detection and Mitigation Strategies, Invited Talk, NCILC, Cochin University, Tamil Nadu **16 March 2019**
Virtual Learning, Invited Talk, UGC-HRDC, Bharathidasan University, Tamil Nadu **16 February 2019**
Research Topics in Machine Learning, Invited Talk, UGC-HRDC, Bharathidasan University, Tamil Nadu **10 March 2018**
Current Trends in Machine Learning, Invited Talk, CSI Kochi Chapter, **27 July 2017**
Machine Vision - Recent Research Problems, Keynote Speech, National Conference on Recent Trends in Computational Intelligence and Image Processing, CE Vadakara, **22 February 2017**
Google Scholar and Research Tools, Invited Talk, CUSAT, **04 February 2017**

PROFESSIONAL
MEMBERSHIP

ACM Senior Professional Member (Membership No: 7509433)
 IEEE Senior Member (Membership No: 90266380)
 CSI Life Member (No: 01087107)

REVIEWER

IEEE Access, *IEEE*: Associate Editor
ACM Computing Surveys, *ACM*: Reviewer
Journal of Wireless Personal Communications, *Springer*: Reviewer
Int. J of Wireless and Mobile Communications, *Inderscience*: Reviewer
Int. J of Trust Management in Computing and Communications, *Inderscience*: Reviewer

The Computer Journal, Oxford: Reviewer
The Journal of Academic Librarianship, Elsevier: Reviewer
The Electronic Library, Emerald: Reviewer

PUBLICATIONS

[PATENTS] *Methods and Systems for Determining Performance Parameters of an Edge Computing System* Indian Patent, Patent Number: 488320, Date of Grant: 22/12/2023.

[BOOKS] *Data Science for Fake News: Surveys and Perspectives*: Published by Springer (2021) ISBN: 978-3-030-62695-2.

[EDITED VOLUMES] *Responsible Data Science: Select Proceedings of ICDSE 2021*: Published by Springer (2022) ISBN: 978-981-19-4452-9.

Proceedings of ICDSE 2020: Published by IEEE (2020) ISBN: 978-1-7281-8919-2.

Proceedings of ICDSE 2018: Published by IEEE (2018) ISBN: 978-1-5386-4855-1.

Proceedings of ICDSE 2016: Published by IEEE (2016) ISBN: 978-1-5090-1282-4.

Proceedings of ICDSE 2014: Published by IEEE (2014) ISBN: 978-1-4799-6870-1.

Proceedings of ICDSE 2012: Published by IEEE (2012) ISBN: 978-1-4673-2146-4.

Contemporary Trends in Software Engineering: (Edited Volume) Published by Directorate of Public Relations and Publications, Cochin University (2010) ISBN: 978-83-800095-09-7.

[INTERNATIONAL JOURNALS] *GEMM-ArchProfiler: A simulation framework for hardware-level profiling and performance analysis of General Matrix Multiplication in real CNN workloads on heterogeneous CPU architectures*, **SoftwareX**, Springer, Volume 31, 102243, 2025

NeuroProbe: A Performance Profiling Feed Forward Neural Network Simulator for Hardware Interaction Analysis, **SN Computer Science**, Springer, Volume 6, Article Number 414, 2025

Geo-political bias in fake news detection AI: the case of affect, **AI and Ethics**, Springer, Volume 5, pages 1865–1870, 2025

PolySegNet: improving polyp segmentation through swin transformer and vision transformer fusion, **Biomedical Engineering Letters**, Springer, 2024

Reconstruction of gene regulatory networks using graph neural networks, **Applied Soft Computing**, Elsevier, 2024

EfficientPolypSeg: Efficient Polyp Segmentation in colonoscopy images using EfficientNet-B5 with dilated blocks and attention mechanisms, **Biomedical Signal Processing and Control**, Elsevier, Vol. 1(01), pp. 106210, 2024

Geo-political bias in fake news detection AI: the case of affect, **AI and Ethics**, Springer, 2024

Dual Encoder Decoder Shifted Window-Based Transformer Network for Polyp Segmentation with

Self-Learning Approach, **IEEE Transactions on Artificial Intelligence**, IEEE, Vol. 1(01), pp. 1-14, 2024

Novel abstraction methods for TDMA based MAC protocols: case of IIoT MAC wireless HART verification, **Telecommunication Systems**, Springer, Vol. 85 (1), pp. 125-150, 2024

Formal Verification of a MAC Protocol for Underwater Sensor Networks, **IEEE Access**, Vol. 11, pp. 111846-111859, 2023

Formal modeling of the gPTP clock synchronization algorithm in automotive ethernet, **Innovations in Systems and Software Engineering**, Springer, Vol. 19(3), pp. 265-281, 2023

Formal Modelling and Verification of the Clock Synchronization Algorithm of FlexRay, **Defense Science Journal**, Vol. 73(1), pp. 41-50, 2023

Malayalam Natural Language Processing: Challenges in Building a Phrase-Based Statistical Machine Translation System, **ACM Transactions on Asian and Low-Resource Language Information Processing**, ACM, Vol.22(4), pp 1-51, 2023

Abstracting IoT protocols using timed process algebra and SPIN model checker, **Cluster Computing**, Springer, Vol. 26(2), 1611-1629, 2023

Identification of Crowd Behaviour Patterns Using Stability Analysis, **Journal of Intelligent & Fuzzy Systems**, IOS Press, Vol. 42(4), pp. 2829-2843, 2022

Generic Methodology for Formal Verification of UML Models, **Defense Science Journal**, Vol. 72(1), pp. 40-48, 2022

Abnormal Crowd Behaviour Detection Using Parallel Deep Neural Networks, **Journal of Information Science and Engineering**, Institute of Information Science, Academia Sinica, Vol. 37(2), pp. 337-346, 2021

Learning in the presence of concept recurrence in data stream clustering, **J Big Data**, Springer Nature, 7, 75, 2020 (In Press)

Machine Learning Approach to Suffix Separation on a Sandhi Rule Annotated Malayalam Data Set, **South Asia Research**, Sage Journals, Vol. 40 (2), pp. 231-249, 2020

Concept Drift Detection in Data Stream Clustering and its Application on Weather Data, **Int. J. Agricultural and Environmental Information Systems**, IGI Global Publishing, Vol. 11 (1), pp. 67 - 85, 2020

Methodology for Integrating Computational Tree Logic Model Checking in Unified Modelling Language Artefacts A Case Study of an Embedded Controller, **Defence Science Journal**, Vol. 69 (1), pp. 58 - 64, 2019

Mining spatial colocations from image-objects: A tensor factorization approach, **J. Intelligent and Fuzzy Systems**, IOS Press, Vol. 37 (5), pp. 6707-6716, 2019

Change Detection in Urban landscapes: a tensor factorization approach, **Spat.Inf.Res**, Springer, Vol. 27 (5), pp. 587 - 600, 2019

Verb Phrases Alignment Technique for English-Malayalam Parallel Corpus in Statistical Machine Translation, **Journal of Intelligent Systems**, De Gruyter, Vol. 28 (3), pp. 479 - 492, 2019

Secret Image Sharing Based Cheque Truncation System with Cheating Detection, **International Journal on Information Processing**, I K International, 8(4) pp. 1 - 11, 2014

Using Open Source Software for Digital Libraries: A Case Study of CUSAT, **The Electronic Library**, The international journal for the application of technology in information environments, Emerald Publishing, 31(2) pp. 217 - 225, 2013

Image Mining Prototype to Achieve Medical Image Diagnosis with Effectiveness, **International Journal on Information Processing**, I K International, 6(2) pp. 38 - 47, 2012

Representation and Analysis of DNA Sequences using Fractal Method, **International Journal on Information Processing**, 5(1) pp. 33 - 40, 2011

Energy Aware Cluster-based Multihop Routing Protocol for Sensor Networks, **International Journal on Information Processing**, 4(3) pp. 9 - 16, 2010

Service Oriented Architecture for Retrieving Data from Wireless Sensor Networks, **International Journal on Information Processing**, 3(4) pp. 33 - 40, 2009

Squeezed coherent state representation of scalar field and particle production in the early universe, **International Journal of Theoretical Physics**, 39 (2) pp. 351-360, 2000

[BOOK CHAPTERS] *A Framework for Monitoring Clustering Stability Over Time*, Advances in Intelligent Systems and Computing, Springer, Vol. 882 pp. 467 - 477, May (2019)
Spatiotemporal Ontology for understanding Semantics in Change Patterns of Remote Sensing Images, Lecture Notes in Networks and Systems, Springer 2018, ISBN: 978-981-13-2323-2.
Automatic Multilabelling of Images and Semantic Relation Extraction, (Book Chapter) Digital Image and Signal Processing, Elsevier 2014, ISBN: 978-9-3510-7252-2.
An Improved E-Voting Scheme using Secret Sharing based Secure Multi Party Computation, (Book Chapter) Computer Communication Networks, Elsevier 2014, ISBN: 978-9-3510-7253-9.
Establishing Security in Cheque Truncation System using Secret Image Sharing, (Book Chapter) Computer Communication Networks, Elsevier 2014, ISBN: 978-9-3510-7253-9.
Interestingness Analysis of Semantic Association Mining in Medical Images, (Book Chapter) Computer Networks and Intelligent Computing, Springer 2011, Volume 157, Part 1, 1-10,
DOI: 10.1007/978-3-642-22786-8_1

Authentication in Wireless Sensor Networks Using Zero Knowledge Protocol, (Book Chapter) Computer Networks and Intelligent Computing, Springer 2011, Volume 157, Part 1, 416-421,
DOI: 10.1007/978-3-642-22786-8_52

Semantic Association Mining on Spatial Patterns in Medical Images, (Book Chapter) Advances in Computing and Communications, Springer 2011, Volume 191, Part 5, 263-272,
DOI: 10.1007/978-3-642-22714-1_28

Virtualization Techniques: A Methodical Review of XEN and KVM, (Book Chapter) Advances in Computing and Communications, Springer 2011, Volume 190, Part 5, 399-410,
DOI: 10.1007/978-3-642-22709-7_40

Improving Energy Efficiency of Underwater Acoustic Sensor Networks Using Transmission Power Control: A Cross-Layer Approach, (Book Chapter) Advances in Computing and Communications, Springer 2011, Volume 192, Part 2, 93-101,
DOI: 10.1007/978-3-642-22720-2_9

Alignment Model and Training Technique in SMT from English to Malayalam, (Book Chapter) Contemporary Computing Communications in Computer and Information Science, Springer 2010, Volume 94, Part 6, 305-315,
DOI: 10.1007/978-3-642-14834-7_29

[INTERNATIONAL
CONFERENCES]

Evaluation of Computation Overhead of Paillier Encryption in Vertical Federated Learning, **IEEE 5th India Council International Subsections Conference (INDISCON)**, 2024, Punjab Engg College, Chandigarh, India

PolySegNet: Improving Polyp Segmentation through Swin Transformer and Vision Transformer Fusion, **IEEE/CVF Winter Conference on Applications of Computer Vision (WACV)**, 2024, Waikoloa, HI, CORE rank A

Self-supervised animal detection in constrained environment, **VUA workshop of BMVC 2023**, Aberdeen, Scotland, UK, CORE rank A

Tracking-by-Self Detection: A Self-supervised Framework for Multiple Animal Tracking, **IFIP International Conference on Artificial Intelligence Applications and Innovations**, University of León, Spain , Springer, 2023

A Performance and Power Characterization study of Memorization and Tabulation methods in Graph Neural Networks by assessing Dynamic Programming Workloads, ICITISEE 2022, Universitas Amikom Yogyakarta, Indonesia, 2022.

LGCM: A Communication-Efficient Scheme for Federated Learning in Edge Devices, INDICON 2022, Cochin University, Kerala, 2022.

Automatic Formal Model Generation from UML Diagrams—An Implementation Experience, 2022 IEEE Delhi Section Conference (DELCON), 2022.

BiLSTM-Autoencoder Architecture for Stance Prediction, International Conference on Data Science and Engineering, Cochin University, 2020.

CUSUM based concept drift detector for data stream clustering, International Conference on Big Data and Internet of Things, 2020.

Change Analysis of Indian Metropolitan Cities through a Spatiotemporal Ontology, **2019 ICDSE**, pp. 21 - 25, September 26 (2019), IIT Patna, India.

Enhanced Fast Retina Keypoint Descriptor, **2017 IEEE TENCON**, pp. 1493 - 1498, November 5 - 8 (2017), Penang, Malaysia

A Framework for the prediction of the performance of IoT protocols, a Use Case based approach, **International Conference on Smart Technologies for Smart Nation**, August 17 - 19 (2017), REVA University, Bangalore, India (to appear in IEEEExplore)

Analysis of the Smart Growth of Kochi City through Landscape Metrics, **2017 IEEE Region 10 Symposium (TENSYP)**, pp. 1-5, Kochi, July 14 - 16 (2017)

Direction Estimation of crowd flow in Surveillance Videos, **2017 IEEE Region 10 Symposium (TENSYP)**, pp. 1-5, Kochi, July 14 - 16 (2017)

Inter-Spectral and Intra-Spectral Features for Effective Classification of Remotely Sensed Images, **Procedia Computer Science**, Elsevier, Vol. 115, pp. 549 - 555, 2017

Modelling and Verification of CoAP over Routing Layer Using SPIN Model Checker, **Procedia Computer Science**, Elsevier, Vol. 93, pp. 299 - 308, 2016

Modeling and verification of timed automaton based hybrid systems using spin model checker, **2016 IEEE Annual India Conference (INDICON)**, Bangalore, pp. 1-8, December 16 - 18 (2016)

Detection of similar community in large network based on graph edit distance, **2016 International Conference on Data Science and Engineering (ICDSE)**, Cochin, pp. 1-5, August 23 - 25 (2016)

User characterization through network flow analysis, **2016 International Conference on Data Science and Engineering (ICDSE)**, Published by IEEE, pp. 1-6, August 23 - 25 (2016)

Dynamic power profile estimation of interconnected smart objects, **2015 IEEE Recent Advances in Intelligent Computational Systems (RAICS)**, Trivandrum, pp. 394-399, December 10 -12 (2015)

A Hierarchical Framework for the Classification of Multispectral Imagery, **Procedia Computer Science**, Elsevier, Vol. 46, pp. 78 - 85, 2015

Rainfall Prediction using Artificial Neural Network on Map-Reduce Framework, **Third International Symposium on Women in Computing and Informatics (WIC 2015)**, ACM Digital Library, pp. 492-495, Aug 10-13, (2015)

An effective private data storage and retrieval system using secret sharing scheme based on secure multi-party computation, **2014 International Conference on Data Science and Engineering (ICDSE)**, Published by IEEE, pp. 210-214, Aug 26 - 28, (2014)

Fault tolerant state management for high-volume low-latency data stream workloads, **2014 International Conference on Data Science and Engineering (ICDSE 14)**, pp. 24-27, Published by IEEE, Aug 26-28, (2014)

Classification based land use/land cover change detection through Landsat images, **2014 International Conference on Data Science and Engineering (ICDSE 14)**, pp. 24–27, Published by IEEE, Aug 26-28, (2014)

Association rule extraction from medical transcripts of diabetic patients, **2014 Fifth International Conference on the Applications of Digital Information and Web Technologies (ICADIWT 14)**, pp. 201–206, Published by IEEE, Feb 17-19, (2014)

Analytical Study of Typographical Errors in OPACS and Corrective Measures, **9th International CALIBER**, Gandhinagar, Gujrat, India, March 21-23, (2013)

Automatic image annotation using SURF descriptors, **Annual IEEE India Conference (INDICON)**, pp. 920-924, Published by IEEE, Dec 7-9, (2012)

Implementation and evaluation of an improved header compression for 6LoWPAN, **Annual IEEE India Conference (INDICON)**, pp. 439-443, Published by IEEE, Dec 7-9, (2012)

Real time recognition of pedestrian and vehicles from videos, Proceedings of the Second International Conference on Computational Science, Engineering and Information Technology (CCSEIT '12), pp. 517-523, Published by ACM, Oct 26-28, (2012)

Extension Schemes for the Alignment Model of English-Malayalam Statistical Machine Translator, Proceedings of the 2012 International Conference on Advances in Computing and Communications (ICACC), pp 86 - 89, Published by IEEE, Aug 9-11, (2012)

An Improved Color Video Super-Resolution Using Kernel Regression and Fuzzy Enhancement, Proceedings of the 2012 International Conference on Advances in Computing and Communications (ICACC), pp 114 - 117, Published by IEEE, Aug 9-11, (2012)

Integrated environment for launch vehicle telemetry data management, Proceedings of the 2012 International Conference on Data Science and Engineering (ICDSE), pp 171-174, Published by IEEE, Jul 18-20, (2012)

Ontology based framework for news extraction in visual media, Proceedings of the 2012 International Conference on Data Science and Engineering (ICDSE), pp 220 - 222, Published by IEEE, Jul 18-20 (2012)

RMAC-M: Extending the R-MAC protocol for an energy efficient, delay tolerant underwater acoustic sensor network application with a mobile data mule node, 2011 International Symposium on Ocean Electronics (SYMPOL), pp 217 - 223, Published by IEEE, Nov 16-18, (2011)

English to Malayalam translation: a statistical approach, Proceedings of the 1st Amrita ACM-W Celebration on Women in Computing in India (A2CWIC 10), pp 64:1–64:5, Published by ACM, Sept 16-18, (2010)

Alignment Model and Training Technique in SMT from English to Malayalam, 3rd International Conference on Contemporary Computing (IC3 2010), Published in Communications in Computer and Information Science ISSN: 1865-0929, Springer, JIIT University, Noida, India, August 09 – 11 (2010)

EHMRP : An Energy-Efficient Routing Protocol for Wireless Sensor Networks, International Conference on Information Processing (ICIP2010), UVCE, Bangalore, Karnataka, India, August 06 -08 (2010)

A Framework of Statistical Machine Translator from English to Malayalam, International Conference on Information Processing (ICIP2010), UVCE, Bangalore, Karnataka, India, August 06 -08 (2010)

Fractal Method for Analysis of DNA Sequences, International Conference on Information Processing (ICIP2010), UVCE, Bangalore, Karnataka, India, August 06 -08 (2010)

Moving Object Detection Algorithms: A Systematic Survey, CSI Communications, 33(11) pp. 31 - 35, February 2010

DNA Sequence Representation Methods, International Symposium on Biocomputing (ISB 2010) ACM Conference, NIT Calicut, Kerala, India, February 15-17(2010)

Safe Contiki OS: Type and Memory Safety for Contiki OS, International Conference on Advances in Recent Technologies in Communication and Computing (ARTCom 2009) Published in IEEEExplore, Kottayam, Kerala, India, October 27-28(2009)

Modeling of ALFA Programs Using PVS Theorem Prover, International Conference on Advances in Recent Technologies in Communication and Computing (ARTCom 2009) Published in IEEEExplore, Kottayam, Kerala, India, October 27-28(2009)

Service Oriented Architecture for Data Retrieval from WSNs, International Journal on Information Processing, 3(4) pp. 33 - 44, 2009

Voting based Clustering Scheme for Energy Efficient Routing in Sensor Networks, International Conference on Information Processing (ICIP2008), UVCE, Bangalore, Karnataka, India, August 07 -09 (2009)

Safe Contiki OS, 2nd International Conference on Education and Research, Rajagiri School of Engineering and Technology, Kochi, Kerala, India, March 11-14 (2009)

Formal Verification of programs in ADA language for flight software application, 2nd International Conference on Education and Research, Rajagiri School of Engineering and Technology, Kochi, Kerala, India, March 11-14 (2009)

An Energy Aware Load Balanced Clustering Scheme for Sensor Networks, National Conference on Computational Science and Engineering, Rajagiri School of Social Sciences, Kochi, Kerala, India, February 6-7 (2009)

Analysis of COX-3 Gene and Phylogeny Construction, National Conference on Computational Science and Engineering, Rajagiri School of Social Sciences, Kochi, Kerala, India, February 6-7 (2009)

Mobility Metric based LEACH-Mobile Protocol. 16th International Conference on Advanced Computing and Communications (ADCOM 2008), Published by IEEE , Anna University, Chennai, India, December 14-17 (2008)

Routing Protocol Enhancement for handling Node Mobility in WSNs. IEEE TENCON 2008, University of Hyderabad, Hyderabad, India, November 18-21 (2008)

Service Oriented Architecture for Data Retrieval from WSNs. International Conference on Information Processing (ICIP2008), UVCE, Bangalore, Karnataka, India, August 08 -11 (2008)

Motion Segmentation and Meanshift Assisted Contour Refinement for Airborne Video. IADIS International Conference on Computer Graphics and Visualization 2008, Amsterdam, The Netherlands, July 24-26 (2008)

Impact of Node Mobility on the Performance of Wireless Sensor Networks. International Conference on Sensors and Related Networks (SENNET '07), VIT University, Vellore, Tamil Nadu, India, December 12 – 14 (2007)

Maritime Sea Surveillance Using Sensor Networks. International Symposium on Ocean Electronics (SYMPOL '07), Cochin University of Science and Technology, Cochin, Kerala, India, December 11 – 14 (2007)

An Energy Efficient Tree based Adaptive Routing Protocol for Wireless Sensor Networks. International Conference on Information Processing (ICIP2007), UVCE, Bangalore, Karnataka, India, August 10 -12 (2007)

MAC Protocols for Static and Mobile Wireless Sensor Networks: A Survey. International Conference on Information Processing (ICIP2007), UVCE, Bangalore, Karnataka, India, August 10 -12 (2007)

CIBLA – A Localization Algorithm for Wireless Sensor Networks. International Conference on Embedded Systems, Mobile Communication and Computing (ICEMC22007), PESIT, Bangalore, Karnataka, India, August 3-5 (2007)

Development of a Knowledge Management Model in a Multidisciplinary Software Development Environment using Transfer Function approach. International Conference on Global Software Development (ICGSD 07), PSG College of Technology, Coimbatore, TamilNadu, India, July 26 – 28 (2007)

A Generic Software Architecture for a Domain Specific Distributed Embedded System. International Conference on Software Engineering, Theory and Practice (SETP 07), Orlando, FL, USA, July 9-12 (2007)

Evaluation of the Power Consumption of Routing Protocols for Wireless Sensor Networks. Proceedings of the International Symposium on Ad-Hoc and Ubiquitous Computing, Published by IEEE, NITK, Surathkal, India, December 20-23 (2006)

Development of Teacher and Content for effective e-learning practices. Proceedings on International Workshop on E-Learning, Common Wealth of Learning & CUSAT, Cochin, Kerala, India, September 15-27 (2006)