



Profile of Mr. I. Laurence Aroquiaraj

Educational Qualifications	:	M.Sc., M.Phil., M.Tech., M.C.A., (Ph.D.) (Computer Science)
Teaching Experience	:	12 years
Research Experience	:	10 years
Industrial Experience	:	3 years
Area of Research	:	Medical Image Processing
Areas of Interests	:	Data Mining, Internet Technologies and Networking.
International Conferences attended	:	4
Conferences/Seminar/ Workshop organized	:	6
No. of Publications International Journals/ Conference Proceedings	:	27
National Journals/ Conference Proceedings	:	8
No. of research papers presented	:	25
Member of Professional Bodies	:	IEEE, IAENG, IET Image Processing, Elsevier – ACI,
Guided		
Master of Computer Applications	:	80
Master of Science (M.Sc. (Comp. Sci.))	:	10
M. Phil. (Computer Science)	:	30

Publications:

International Journal / Conference Proceedings

1. Mr. I. Laurence Aroquiaraj, Dr.K.Thangavel and Mr. R. Manavalan “Removal of Speckle Noise from Ultrasound Medical Image based on Special Filters: Comparative Study”, (ICGST-GVIP) International Congress for Global Science and Technology - International Journal of Graphics, Vision and Image Processing (G, ISSN 1687-398X, Volume(9), Issue (III), pp 25-32, June 2009. (International – Journal) **(DBLP Indexed)**
2. Mr. I. Laurence Aroquiaraj, Dr. K. Thangavel and Mr. R. Manavalan, “Comparative Analysis of Speckle Filtering Techniques”, International Journal of Recent Trends in Engineering, Vol. 2, No. 2, ISSN 1797-9617, Academy Publisher, pp 120-123, November 2009. (International – Journal)
3. Mr. I. Laurence Aroquiaraj, Dr. K. Thangavel “Impulse Noise Removal from Mammogram Images using Combiner Approach”, International Journal of Global Research in Computer Science, ISSN 2229-371X, Vol. 1, No. 2, pp 22-27, October 2010.
4. Mr. I. Laurence Aroquiaraj, Dr. K. Thangavel, “Feature Extraction Analysis using Mammogram Images: A New Approach”, Journal of Computer Science and Applications (JCSA), RIP Journal on Image and Video Processing, International Research Publication House, ISSN No. 2231-1270, Volume 3, Number 1, pp. 33-44, January-June, 2011. (International)
5. Mr. I. Laurence Aroquiaraj and Dr. K. Thangavel, “Mammogram Image Segmentation Using Fuzzy Entropy”, in Proceedings on International Conference on Advanced Computer Technology (ICACT 2011) from 29th and 30th July 2011 organized by J.K.K.Nattraja College of Engineering and Technology, Kumarapalayam. (International – Proceedings)
6. Mr. I. Laurence Aroquiaraj, Dr. K. Thangavel, “Mammogram Image Segmentation Using Auto Adaptive Fuzzy Index Measure”, ICTACT Journal on Image and Video Processing, ID No. IJIVP/1/091. ICTACT Journal on Image and Video Processing, (An International Publication of ICT Academy of Tamil Nadu), ISSN 0976-9099, Vol.02, No. 1, pp. 274-278, August 2011. (International)
7. Mr. I. Laurence Aroquiaraj, Dr. K. Thangavel, “Mammogram Image Segmentation using Weighted Fuzzy Entropy”, in Proceedings on 2nd International Conference on Simulation, Modeling and Analysis (COSMA 2011) from 14th and 16th December 2011 organized by AMRITA School of Engineering, Coimbatore. (International – Proceedings)
8. Mr. I. Laurence Aroquiaraj, R. Poongothai, and D. Kalaivani, “A Novel Pectoral Removal Approach in Digital Mammogram Segmentation and USRR Feature Selection”, International Journal of Engineering Research and Applications (**IJERA**), ISSN 2248-9622, Volume 2, Issue 4, pp. 1847-1851, July-August, 2012. (International)

9. Mr. I. Laurence Aroquiaraj, Dr. K. Thangavel, "Unsupervised Feature Selection in Digital Mammogram Using Tolerance Rough Set based Quick Reduct", in Proceedings on International Conference on Computational Intelligence and Communication Networks (CICN 2012) from 3rd and 5th November 2012 organized by GLA University, Mathura. **(IEEE Xplore) (Scopus Indexed)** (International – Proceedings)
10. Mr. I. Laurence Aroquiaraj, Dr. K. Thangavel, "Mammogram Image Feature Selection using Unsupervised Tolerance Rough Set Relative Reduct Algorithm", in Proceedings on International Conference on Pattern Recognition, Informatics and Mobile Engineering (PRIME 2013) from 21st and 22nd February 2013 organized by Department of Computer Science, Periyar University, Salem. **(IEEE Xplore) (Scopus Indexed)** (International – Proceedings)
11. I. Laurence Aroquiaraj, T. Dharani, "A Survey on Content Based Image Retrieval", in Proceedings on International Conference on Pattern Recognition, Informatics and Mobile Engineering (PRIME 2013) from 21st and 22nd February 2013 organized by Department of Computer Science, Periyar University, Salem. **(IEEE Xplore) (Scopus Indexed)** (International – Proceedings)
12. Mr. I. Laurence Aroquiaraj, Dr. K. Thangavel, "Mammogram Edge Detection Using Hybrid Soft Computing Methods", International Journal of Scientific & Engineering Research (IJSER), ISSN No. 2229-5518 , Volume 4, Issue 6, pp 550-557, June-2013 **(DBLP Indexed)**
13. Mr. I. Laurence Aroquiaraj, Ms. T. Dharani, "Content Based Image Retrieval System Using Feature Classification with modified KNN algorithm", International Journal of Computer Trends and Technology, Vol. 4 , Issue 7, pp. 2008-2013, July 2013. **(DBLP Indexed)**
14. Mr. I. Laurence Aroquiaraj, Dr. K. Thangavel, "Pectoral Muscles Suppression in Digital Mammograms using Hybridization of Soft Computing Methods", World Academy of Science, Engineering and Technology, International Journal of Computer Science and Engineering Vol. 7, No.2, pp. 938-945, 2013**(Scopus and DBLP Indexed)**
15. Mr. I. Laurence Aroquiaraj, Dr. K. Thangavel, "Mass Classification Method in Mammogram Using Fuzzy K-Nearest Neighbour Equality", International Journal of Emerging Technologies in Computational and Applied Sciences (IJETCAS), ISSN No. 2279-005), Vol. 8, No. 1, pp. 118-122, March-May, 2014. **(DBLP Indexed)**
16. Mr. I. Laurence Aroquiaraj, Mrs. K. Kokila, "Ear Biometrics For Automatic Index Segmentation Using Canny Edge Detection", International Journal of Computational Intelligence and Informatics" (IJCII), (Paper Accepted).
17. Mr. I. Laurence Aroquiaraj, Mr. K. Mohan, "Comparative Analysis of Saptial Filtering Techniques in Ultrasound Images", International Journal of Computational Intelligence and Informatics" (IJCII), (Paper Accepted).

18. Mr. I. Laurence Aroquiaraj, Mrs. B. Saranya, "Performance Analysis For Blood Vessel Segmentation In Hypertensive Retinopathy", International Journal of Computational Intelligence and Informatics" (IJCII), (Paper Accepted).
19. Mr. I. Laurence Aroquiaraj, Mr. K. Veeramani, "FP-AODV Packet Forwarding in Mobile Adhoc Network", International Journal of Computational Intelligence and Informatics" (IJCII), (Paper Accepted).

National Journal / Conference Proceedings

1. Mr. I. Laurence Aroquiaraj, Dr. K. Thangavel and Mr. R. Manavalan, "A Survey on Prostate Medical Images and Comparative Analysis" in Proceedings on National Conference on Soft Computing from 17th and 18th November 2006 organized by Hindustan College of Engineering and Technology, Coimbatore, pp. 81-87. (National – Proceedings)
2. Mr. I. Laurence Aroquiaraj and Mr. S. Sivakumar "Data Mining Security in E-Commerce" in Proceedings of National Seminar on "Strategic Management: Opportunities and Challenges in Post LPG Era", PRIMS, Periyar University, Salem – 11 held on February 15th and 16th, 2007. (National – Proceedings)
3. Mr. I. Laurence Aroquiaraj, Dr. K. Thangavel and Mr. R. Manavalan, "Feature Extraction Using Trace Mean" in the Proceedings of Second National Conference on Management Science and Practice, Indian Institute of Technology, Chennai, held on March 9th – 11th, 2007. (National – Proceedings)
4. Mr. I. Laurence Aroquiaraj, Dr. K. Thangavel, "impulse noise removal from Mammogram images using combines approach" in the Proceedings of National Conference on Intelligent Computing Model (NCICM-2008), Department of computer science Periyar University, Salem -11 held on 22, 23 February 2008. (National – Proceedings)
5. Mr. I. Laurence Aroquiaraj, Dr. K. Thangavel and Mr. R. Manavalan, "Elimating Speckle noise from Ultra sound Medical Images. A Non-linear Approach", in the Proceedings of National Conference on Intelligent Computing Model (NCICM-2008), Department of Computer Science, Periyar University, Salem – 11, held on 22nd and 23rd February, 2008.
6. Mr. I. Laurence Aroquiaraj, Dr. K. Thangavel, a paper on "Comparative Analysis for the application of noise removal Techniques using Spatial Domain Filters" in the Proceedings of National Conference on Intelligent Computing Model (NCICM-2008), Department of Computer Science, Periyar University, Salem – 11, held on 22nd and 23rd February 2008.
7. Participated and presented in NCICM-2008, a paper on "Comparative Analysis for the Application of Noise Removal Techniques using Frequency Domain Filters", organized by the Department of Computer Science, Periyar University, Salem – 11, held on 22nd and 23rd February 2008.

8. Mr. I. Laurence Aroquiaraj, Dr. K. Thangavel and Mr. R. Manavalan, “Eliminating Speckle Noise from Ultrasound Medical Images: A Non-Linear Approach”, Intelligent Computing Models, Narosa Publishing House Pvt. Ltd., ISBN 978-81-7319-955-4, pp 173-180, 2009.
(National –Proceedings)

Participation in International and National Conferences / Seminars / Workshops

1. Participated in the Seminar on “Robotics Implementation for Information Technology” organized by School of information Technology, Bharathidasan University, Trichy, held on 20th to 24th March 2002.
2. Participated in the Seminar on “ENVIRO ‘2005” organized by Department of Electrical and Electronics Engineering, Dr.Pauls Engineering College, Vanur (TK), Villupuram (DT), held on 15th and 16th January 2005.
3. Participated in the Seminar on “ICARUS’ 2005” organized by Department of Electrical and Instrumentation engineering, Dr.Pauls Engineering College, Vanur (TK), Villupuram (DT), held on 25th and 26th February 2005.
4. Participated in the Seminar on “Integrated global Business Management the Indian Experience” organized by PRIMS, Periyar University, Salem – 11, held on 24th and 25th March 2006.
5. Participated in the Workshop on “Software Testing” organized by Centre for Information Technology, K.S.R College of Arts and Science, Tiruchengode-637 209, held on 9th September 2006.
6. Participated in the Seminar on “Recent Trend in Computing” organized by Department of Computer Science , Periyar University, Salem – 11, held on 28th October 2006.
7. Presented and participated in Conference on “Soft Computing” organized by Department of Computer Science and Engineering, Hindustan College of Engineering and Technology, Coimbatore -641 032, held on 17th and 18th November 2006.
8. Participated in workshop on “Mammogram Image Processing and Analysis” organized by Department of Computer Science, Periyar University, Salem – 11, held in 26th November 2006.
9. Participated in the Workshop on “Image and Pattern Recognition” (WIPREC) organized by Department of Information Technology, Bharathidasan Institute of Technology, Bharathidasan University, Trichy, held on 27th December 2006.
10. Participated in Seminar on “Fuzzy Image Processing” organized by the Department of Computer Application, Kongu Engineering College, Erode-638 052, held on 26th and 27th January 2007.
11. Participated and presented on “Data Mining Security in E-Commerce in the National Seminar on Strategic Management: Opportunities and Challenges in post LPG Era” organized by the Department of Management Studies, Periyar University, Salem – 11, held on 15th and 16th February 2007.
12. Presented a paper on “Performance Analysis of Statistical Filtering Techniques” participated in the UGC sponsored National Conference on Data Mining and its Applications organized by the Department of Computer Science, Gobi Arts and Science College, Gobichettipalayam – 638 453, held on 9th and 10th March 2007.

13. Participated and presented a paper on “Feature Extraction Using Trace Mean” in the Second National Conference on Management Science and Practice organized by Indian Institute of Technology, Chennai, held on 9th to 11th March 2007.
14. Participated in the Workshop on “Data Mining using Roughset” organized by the Department of Computer Science, Periyar University, Salem – 11, held on 3rd March 2007.
15. Participated in the Workshop on “Pattern Recognition” organized by the Department of Computer Science, Periyar University, Salem – 11, held on 01st September 2007.
16. Participated in “ A two day progressive Ph.D aspirants meet on research excellence” organized by Department of Computer Science and Engineering , National Engineering College Kovilpatti -628503 , held on 23rd and 24th November 2007
17. Participated and presented in NCICM-2008, a paper “impulse noise removal from Mammogram images using combines approach” organized by Department of computer science Periyar university, Salem -11 held on 22, 23 February 2008.
18. Participated and presented in NCICM-2008, a paper on “Elimating Speckle noise from Ultra sound Medical Images. A Non-linear Approach”, organized by the Department of Computer Science, Periyar University, Salem – 11, held on 22nd and 23rd February, 2008.
19. Participated and presented in NCICM-2008, a paper on “Comparative Analysis for the application of noise removal Techniques using Spatial Domain Filters” organized by the Department of Computer Science, Periyar University, Salem – 11, held on 22nd and 23rd February 2008.
20. Participated and presented in NCICM-2008, a paper on “Comparative Analysis for the Application of Noise Removal Techniques using Frequency Domain Filters”, organized by the Department of Computer Science, Periyar University, Salem – 11, held on 22nd and 23rd February 2008.
21. Participated in the National Seminar on “Role of IT industries in Global environment” in the National Seminar on Global Business Environment: Opportunities and Challenges organized by the Department of Periyar Institute Management Studies, Periyar University, Salem – 11, held on 28th and 29th January 2009.
22. Participated in the Workshop on “Faculty Development Programme”, organized by Microsoft Corporation on Advanced Developer Technologies on 24th April 2009.
23. Participated in the Workshop on Faculty Training Programme on “J2EE and Best Practices in Application Development”, organized by ICT Academy of Tamil Nadu and Periyar University, Salem-11, held on 10-11 November 2009.
24. Participated in the Workshop on “Mobile Computing Using Rough Set Theory”, organized by the Department of Computer Science, Periyar University, Salem -11, held on 13th November 2010.
25. Participated and Presented in NCECP – 2011, a paper on “Comparative Analysis of Edge Detection Algorithms”, jointly organized by M.V. Muthiah Government Arts College for Women, Dindigul-1 and Department of Computer Science, Periyar University, Salem -11, Tamil Nadu, held on 25th February 2011.
26. Participated and Presented in ICACT – 2011, a paper on “Mammogram Image Segmentation Using Fuzzy Entropy”, organized by J.K.K.N. Nattraja College of Engineering and Technology, Tamilnadu, India, held on 29th and 30th July 2011.
27. Participated and Presented in COSMA – 2011, a paper on “Mammogram Image Segmentation Using Weighted Fuzzy Entropy”, jointly organized by Dept. of Mechanical Engineering, AMRITA School of Engineering, Coimbatore and Dept. of Mechanical

- Engineering, National Institute of Technology, Calicut, India, held on 14th and 16th December 2011.
28. Participated in the International Conference on Pattern Recognition, Informatics and Medical Engineering (PRIME – 2012), organized by Dept. of Computer Science, Periyar University, Salem, Tamilnadu, India, held on 21- 23, March 2012.
 29. Participated and Presented in the CSIR Sponsored National Conference on Emerging Trends in Rough Sets, Fuzzy Sets, Data Mining and Granular- Soft Computing, a paper on “Pectoral Muscle removal and detection of masses in digital mammogram using fuzzy with ccl”, organized by Dept. of Computer Applications, Kongu Engineering College, erode, Tamilnadu, held on 3-4, August 2012.
 30. Participated and Presented in EITECH – 2012, a paper on “An Evaluation of Face Segmentation Algorithms”, organized by Dept. of Computer Applications, Sona College of Technology, Salem, Tamilnadu, held on 11th August 2012.
 31. Participated and Presented in ICSIA – 2012, a paper on “Detection of masses and shape spectral analysis in digital mammogram”, organized by PG and Research Department of Statistics, Loyola College, Chennai, Tamilnadu, held on 23-25 August 2012.
 32. Participated and Presented in ICSIA – 2012, a paper on “A Comparative Analysis of Unsupervised Feature Selection Methods in Digital Mammogram”, organized by PG and Research Department of Statistics, Loyola College, Chennai, Tamilnadu, held on 23-25 August 2012.
 33. Participated and Presented in ICSIA – 2012, a paper on “ A Comparative analysis of Ant-Miner and Weka Classifier Algorithms”, organized by PG and Research Department of Statistics, Loyola College, Chennai, Tamilnadu, held on 23-25 August 2012.
 34. Participated and Presented in “ 12th International Conference on Tamil Science Congress, Periyar University, August – 23 to 25, 2012.
 35. Participated and Presented in CICN – 2012, a paper on “Unsupervised Feature Selection in Digital Mammogram Image Using Tolerance Rough Set Based Quick Reduct ”, organized by GLA UNIVERSITY, MATHURA, INDIA, held on 3-5 November 2012.

Professional Activities

1. Delivered a special lecture on “Embedded Systems and Hardware Trouble Shooting” organized by Department of Computer Science, American College, Madurai, held on 09.03.2007.
2. Delivered a special lecture on “e-Governance”, Organized by Nachiappa Institute of Co-operative Management, Salem, held on 16.07.2009.
3. Delivered a special lecture on “Fundamentals of Computer Science”, Young Student Scientist Programme Organized by Periyar University, Salem and Tamilnadu State Council for Science and Technology, Chennai, held on 03-05-2010 to 22-05-2010.
4. “National Seminar on Bio-Computing”, Department of Computer Science, held on 07.03.09. (Seminar - Coordinator)
5. “Software Testing & Personal Development”, Department of Computer Science, held on 12.03.11. (Dr. Daniel Jai Pandian) (Workshop - Coordinator)

6. CSIR Sponsored National Workshop on Emerging Trends in E-Technology (NWETET-2013), Department of Computer Science (Supported by UGC-SAP), held on 14.03.2013 and 15.03.2013. (Organizing Secretary)
7. “BITBAY-2013”, Technical Symposium, Department of Computer Science, held on 20.09.2013. (Coordinator)
8. Two day Research Workshop on Medical Image Segmentation Techniques (MIST-2014) Department of Computer Science, held on 21.11.2014 and 22.11.2014 (Organizing Secretary)

Projects:

S.No.	Title	Cost (in Rupees)	Duration	Agency	Summary
1	Early Detection of Breast Cancer from Mammogram Using soft computing techniques	2,00,000.00	2 years	UGC	Detection and Diagnosis of breast cancer in its early stage increases the chances for successful treatment and complete recovery of the patient. To disseminate the feature sets and the results of the feature selection in the Mammogram databases using different soft computing techniques like Genetic algorithms, Fuzzy set, Rough set etc.,

Extension Activities

1. Resource person on “Fundamentals of Computer Science”, Young Student Scientist Programme Organized by Periyar University, Salem and Tamilnadu State Council for Science and Technology, Chennai, held on 2010 and 2012.
2. Resource person on “National Seminar”, Organized by Department of Computer Science, Periyar University Constitution College of Arts and Science, Papireddipatti, held on 2013.
3. Resource person on “National Seminar”, Organized by Department of Computer Science, Periyar University Constitution College of Arts and Science, Harur, held on 2014.
4. Resource person on “Special Lecture on Medical Image Processing”, Organized by Department of Computer Science, Padmavani College of Arts and Science, Salem, held on 2014.