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Educational Qualification:

Name of the Degree	Name of the University	Year of Passing	Specialization
B.E	Govt.College of Technology,Coimbatore.	1987	Electronics and Communication Engineering
M.E	A.C College of Engineering and Technology,Karaikudi.	1993	Microwave and Optical Engineering
Ph.D	Anna University, Chennai.	2009	Image Processing

Experience in Years: 34 Years

Employment History:

S.No	Name of the College/Industry	Period	Years of Service
1.	PSNA College of Engineering and Technology	1987 to 1999	12 years & 3 months
2.	MEPCO SCHLENK Engineering College	1999 to 2009	8 years & 11 months
3.	Velammal College of Engineering and Technonlogy	2009 to till date	14 Years
	Total Experience		35 Years

Interested Research Areas: Image Processing, Machine Learning

Scholarships and Awards received:

- Received "Dr.A.P.J. Abdul Kalam Award For Scientific Excellence 2016" by Marina R&D Lab
- Convener for UG and PG Courses (ECE Board) of Academic Council of Anna University of Technology, Madurai.
- Board of studies member (ECE Board) for Anna University of Technology, Tirunelveli
- Board of studies member (ECE Board) for Anna University, Chennai.(PG Course)

- Question paper setter for AUT, Tirunelveli, ACCET, Karaikudi, SASTRA University, Karunya University, Sathyabama University, KSR University etc.

Funded Research Projects:

Sl.No	Title of the project	Name of the Funding Agency	Sanctioned Amount	Year	Status	PI / Co-PI
1.	Intelligent Automated Respiratory Monitoring and Control Unit using LabVIEW	AICTE - RPS	10.24 lakhs	2013-2015	Completed	PI
2.	Design and development of smart Health monitoring unit for kindergarten children and old age people	DST	38.16 lakhs	2013-2016	Completed	PI
3.	Decentralized Grid computing Instruction Detection System in Wireless Sensor Networks for Military Personnel	DRDO	15.4164 lakhs	2014-2016	Completed	PI
4.	Design and Development of Automated Object Detection and Classification Algorithm in Hyperspectral images for Battlefield Surveillance System	DRDO	18.862 lakhs	2014-2016	Completed	PI
5.	Design of Quadcopter for Wireless Data Transmission during Disaster Management	Avian Aerospace, Chennai	1.5 Lakhs	2015-2016	Completed	PI
6.	Design of Remotely Operated Vehicle for Underwater Surveillance	Avian Aerospace, Chennai	1.5 Lakhs	2015-2016	Completed	PI
7.	NADI PARIKSHA – Resurrection Using Advancements In Signal Processing Techniques	SHRI-DST	24.742 Lakhs	2019-2022	Ongoing	PI
8.	Image pre processing Enhancement and 3D Modelling of Submerged Features / Objects for Digital Reconstruction of Poombuhar	DST – ICPS Division	40.616	2019-2022	Ongoing	PI
9.	Modernization of Optical and Microwave Laboratory	AICTE-AQIS MODROBS	9.61 Lakhs	2019	Completed	PI
10.	Deep Learning and IoT	AICTE-AQIS FDP	5.92 Lakhs	2019	Completed	PI
11.	Early Forest Fire Detection Via Principal Component Analysis of Multi	AICTE – AQIS - RPS	6 Lakhs	2020-23	Ongoing	PI

	Spectral Imaging					
12	Machine Learning and IoT	AICTE – AQIS - STTP	5 Lakhs	2020	Completed	PI
13	Remote Sensing Data Analysis Facility in Image Processing Lab	AICTE-AQIS MODROBS	16,47,059 Lakhs	2021-2022	Ongoing	PI

Patent rights received:

S.No.	Title of the Invention	Patent Application Number	Current Status
1.	Low cost Life Saving and Fire Accident Prevention System in Firework Industries	Ref.No.2934/CHE/2015	First Stage
2.	Automatic Sanitary Napkin disposal and Degradation System	Ref.No.2933/CHE/2015	First Stage
3.	Environmental Hygienic Automatic Garbage waste Disposal system in Residence	201641022399	Second Stage
4.	Development of an Efficient Algorithm for Hyper spectral unmixing by Investigating Band Selection Technique	201841003159	First Stage
5.	Development of an efficient system for early detection of Diabetic Retinopathy Using Retinal Imaging	201941005575	First Stage

Publications Details:

No. of International Journals: 63

No.of International/National Conference: 105

S. No.	Title	Journal	Year
1.	Significance of Texture Features in the segmentation of remotely sensed images	Optik, Elsevier, October 2021 Vol. 249 pp.no. 168241	2021
2.	PPG Signal Denoising using a New Method for the Selection of Optimal Wavelet Transform Parameters	Journal of University of Shanghai for Science and Technology, 10/25/2021 Vol. 23, Issue 10	2021
3.	Time series analysis of multi-spectral satellite images using game theory classifier	Optik - International Journal for Light and Electron Optics-ELSEVIER	2021
4.	PPG Signal Denoising using a New Method for the Selection of Optimal Wavelet Transform Parameters	Journal of University of Shanghai for Science and Technology	2021

5.	An Ensemble Approach for Classification of Breast Histopathology Images	IETE Journal of Research,	2019
6.	A Novel Method for Segmentation and Change Detection of Satellite Images Using Proximal Splitting Algorithm and Multiclass SVM	Journal of the Indian Society of Remote Sensing	2019
7.	Improved segmentation and change detection of multi-spectral satellite imagery using graph cut based clustering and multiclass SVM	Multimedia Tools and its Applications- Springer	2017
8.	Contour Based Object tracking in Video Scenes Through Optical flow and Gabour Features	Elsevier, Optic International Journal for Light and Electron Optics	2018
9.	Maximin distance based band selection for endmember extraction in hyperspectral images using simplex growing algorithm	Multimedia Tools and its Applications SpringerScience +Business Media	2017
10.	Analysis of Band Selection Algorithms for Endmember Extraction in Hyperspectral Images	Journal of Electronics and Communication Engineering	2016
11.	Foreground object detection Using Expectation Maximization based Effective Gaussian mixture model	Middle East Journal of Scientific Research	2016
12.	Contourlet transform based classification of Multispectral Images	Middle East Journal of Scientific Research	2016
13.	Hybrid approach of efficient decision based algorithm and fuzzy logic for the removed of high density salt and pepper noise in images	Journal of Circuits, Systems and Computers	2016
14.	Efficient Decision Based Algorithm For The Removal Of High density Salt And Pepper noise in Images	Journal of Communication Technology and Electronics	2016
15.	Clustering based band selection for endmember extraction using simplex growing algorithm in hyperspectral images	Multimedia Tools and its Applications- Springer	2016
16.	Enhancement of QoS Constraints Using resource allocation Scheme for LTE System	International Journal of MASIVJ	2015
17.	Multiresolution Joint Bilateral filtering with modified adaptive shrinkage for Image Denoising	Multimedia Tools and its Applications- Springer	2015
18.	A Study on Correlation based Fingerprint Verification	International Journal of Applied Engineering Research	2015
19.	MF Based Spectral Unmixing for Subpixel Target Detection in Hyperspectral Images	International Journal of Applied Engineering Research	2015
20.	FCLS Based Spectral Unmixing In Hyperspectral Images Using Simplex Growing Algorithm	International Journalof Applied Engineering Research	2015
21.	Object Recognition using Adaboost based Multiple Instance Pruning	International Journal of Applied Engineering Research	2015
22.	Channel Migration Analysis of river and feature extraction from remotely Sensed Multispectral Images	International Journal of Applied Engineering Research	2015
23.	Complete Movement Estimation of Non-Rigid Object Using Optical Flow and Contour Method	International Journalof Applied Engineering Research	2015

24.	Optic Disk and Optic Cup Segmentation for Glaucoma Screening	Artificial Intelligence and Evolutionary algorithms in Engineering Systems(Springer India Lecture Notes)	2015
25.	Automatic Detection of Blood Vessels in Retinal Images forDiabetic Retinopathy Diagnosis	Hindawi Publishing Corporation Computational and Mathematical Methods in Medicine	2015
26.	Channel migration analysis of river and feature remotely sensed multispectral images	International Journal of Applied Engineering Research	2015
27.	Complete movement estimation of non-rigid object using optical flow and contour method	International Journal of Applied Engineering Research	2015
28.	Object recognition using adaboost based multiple instance proning	International Journal of Applied Engineering Research	2015
29.	Multiresolution joint bilateral filtering with modified adaptive shrinkage for image denoising	International Journal on Multimedia Tools and Applications	2015
30.	FCLS based spectral unmixing in hyperspectral images using simplex growing algorithm	International Journal of Applied Engineering Research	2015
31.	MF Based Spectral Unmixing for Subpixel Target detection in Hyper Spectral Images	International Journal of Applied Engineering Research	2015
32.	A Study on Correlation based Fingerprint Verification	International Journal of Applied Engineering Research	2015
33.	Determination of Spectral signatures of end members using pixel purity index in hyper spectral images	International Journal of Advanced and Innovative Research	2014
34.	Feature Correlation based Parallel Hyper spectral Image Compression using a Hybridization of FCM and Subtractive Clustering	Journal of Communication Technology and Electronics	2014
35.	Reconfigurable architecture of 2D Adaptive median filter based Image Denoising	International journal of Applied Engineering and Research	2014
36.	Effective noise removal in Gray level image using JBF	International journal of Applied Engineering and Research	2014
37.	Band Selection Using Clustering Technique for Dimensionality Reduction in Hyper Spectral Image	International Journal of Electrical and Computing Engineering	2014
38.	A Zigbee and Embedded Based Security Monitoring Control System	International Journal of Information Sciences and Techniques (IJIST)	2014
39.	Tracking And Counting the Vehicles in Night Scenes	International Journal of Information Sciences and Techniques (IJIST)	2014
40.	FPGA Based Hyper Spectral Image Compression using DWT & DCT	Australian Journal of Basic and Applied Sciences	2014
41.	Hyper Spectral Image Compression based on DWT & TD with ALS method	International Arab Journal of Information Technology	2014

National / International Conference Publications:

Sl. No	Title of the Paper	Name of the Conferences	Date
1.	Development of Computer aided Segmentation of Blood Vessels in Retinal Images using Soft Computing Techniques	International Conference on Innovations in Computers, Information and Communications organized by PSG College of Technology , Coimbatore	January 2012
2.	Retrieval Medical Images using both Color and Texture Features		
3.	Wavelet Based Hyper Spectral Image Compression using FPGA Architecture and CBMIR For Processed Medical Image Using Both Color And Texture Features	International Conference on Computational Intelligence and its Applications organized by Vivekanandha Institute of Engineering and Technology For Women	March-2012
4.	Hybrid Feature transform based robust watermarking	International Conference on Advanced Computing Technology organized by JKKN College of Engg. And Tech., Namakkal	
5.	Color and Texture based image retrieval for Medical PET images	International Conference for Computing techniques and systems ICCTS 2012	
6.	Improvement of Hyper Spectral Image Compression & Decompression Based on Wavelet and Modified Spiht in multimedia Communication	International conference on advanced technologies for research and product development(ICATRPD-2012) Kathir college of engineering Coimbatore	September-2012
7.	Analysis of CT images using curve let transform	International conference on Advanced Engineering and Technology, Chennai	March-2013
8.	Kernel based multiclass RVM for satellite images using wavelet transform	International conference on ICIIIOS – 2013, Karunya University, Coimbatore	
9.	Identification of Microaneurysms in human retinal image for early diagnosis of diabetic retinopathy		
10.	Medical image registration based retrieval using color and texture features	International conference on telecommunication and networks (TELNET 2013), Amity university, Uttar Pradesh, Noida, India	February-2013
11.	Medical image retrieval using texture features		
12.	Affine based image registration applied to MRI brain	International conference on information, communication and embedded system, S.A Engineering college, Chennai-77	
13.	Pattern Based medical image retrieval	International conference on advanced technologies for research and product development (ICATRPD-2012)Kathir college of engineering Coimbatore	September-2012
14.	Possion Noise removal in MRI Images using PURE-LET Approach	International Conference on Science, Engineering and Technology (SET-2012), organized by Vellore Institute of Technology., Vellore.	December-2012
15.	A Hybrid Technique for Impulse noise Reduction	International Conference on Designs and Applications of Structures, Drives, Communicational and Computing Systems (ICDASDC-2012) organized by KLN college of Information Technology, Pottapalyam, Sivagangai DT.	November-2012
16.	The Performance Analysis of Purelet	International Conference on SMART	

	Approach with The Hybrid Method Purelet and ICA Based Poisson Noise Reduction in MRI Data Sets	Technologies (ICST-2013) organized by VEL TECH TECHNICAL UNIVERSITY, Avadi, Chennai.	Decemb er-2012
17.	Directional Feature Preservation in Medical Images Using Contourlet Transform		January -2013
18.	Affine based Image Registartion Applied to MRI brain	International Conference on Information Communication and Embedded Systems S.A. Engineering College Chennai	June-2013
19.	DWT Based Hyper spectral Image Compression and Decompression using Modified EZW Algorithm	International Conference on Innovations in Electronics, Communications and Computing ,VCET Madurai	April-2014
20.	Performance Analysis of Retinal Image Blood Vessel Segmentation		
21.	Implementation Of Stenography and Cryptography Using ECC		
22.	Segmentation of Retinal Blood Vessels Using Gaussian Mixture Models and Gabor filter		
23.	Tracking And Counting the Vehicles in Night Scenes		
24.	Hardware Realization of Median Filter and 2D-Discrete Wavelet Transform		
25.	A Zigbee and Embedded Based Security Monitoring Control System		
26.	Human Detection and Tracking Using Gaussian Mixture Model & Kalman Filtering		
27.	Band Selection Using Clustering Technique for Dimensionality Reduction in Hyper Spectral Image	International Institute of Scientific research and Technology	Decemb er 2014
28.	Object recognition using SVM based Multiple instance pruning	ICDASDC'14 K.L.N.I.T, Madurai	Decemb er 2014
29.	Determination of Spectral Signatures of End numbers using pixel purity index in hyperspectral images		
30.	ICA based end member extraction in hyperspectral images		
31.	Complete Movement Estimation of Non – rigid Object using Optical flow and Contour method	ICCCET'15 Vivekanandha Institute of Engineering and Technology for Women.	March 2015
32.	Spooring of Players in Sports Video Sequences using Particle Filtering Method		
33.	Channel Migration of River and Feature Extraction from Remotely Sensed Multispectral Imagery		
34.	Object Recognition Using Adaboost Based Multiple Instance Pruning	ICAAET'15 Syed Ammal Engineering College, Ramanathapuram.	May 2015
35.	FLCS based spectral un mixing in Hyper spectral images using Simplex Growing Algorithm	ICAAET'15 Syed Ammal Engineering College, Ramanathapuram.	

36.	Mf Based Spectral Unmixing For Subpixel Target Detection In Hyperspectral Images	ICAAET'15 Syed Ammal Engineering College, Ramanathapuram.	
37.	Arm Processor implementation of Laplacian Pyramid Combined with Bilateral Filtering based Image Denoising	International Conference on Soft Computing Systems (ICSCS 2016) Noorul Islam University, Kumaracoil	Februar y 2016
38.	Generalized Bilinear Model based Nonlinear Spectral Unmixing in Hyperspectral Image	National Conference on Power and Renewable Energy Systems-NCPRES'16 Velammal College of Engineering and Technology,Madurai	January 2016
39.	PSO based Band Selection for Hyper Spectral Image Classification		
40.	Contourlet transform based classification of Multispectral Images	IEEE sponsored 3rd International conference on Innovations in Information, embedded and communication systems ICIIECS'16 Karpagam college of Engineering Coimbatore	March 2016
41.	Foreground object detection Using Expectation Maximisation based Effective Guassian mixture model		
42.	Reconfigurable Architecture for Lifting Scheme based DWT Using XILINX System Generator		
43.	Detection of brain tumour using statistical features and thresholding algorithm	National Conference on Innovations in Electronics, Communication and Computing - NCIECC`17 Velammal College of Engineering and Technology,Madurai	March 2017
44.	Unsupervised Change Detection of Multispectral Images using Genetic based Particle Swarm Optimization		
45.	An Efficient Method for Object Segmentation in Video Scenes		
46.	Firefly Algorithm Based Band Selection for Spectral Unmixing in Hyperspectral Images		
47.	Analysis of Non Linear SVM Learning Algorithms In Distinguishing Patients with Appendicitis And Pancreatitis Using Wrist Pulse Doppler Blood Flow Signals	International Conference on Artificial Intelligence & Smart Computing (ICAISC 2020)	October 2020
48.	Analysis and Classification of Lung Sound using Machine Learning Algorithm	Intelligent Computing and Automation–INSTRUVISION'21	April 2021

Books published /Chapters contributed

S.No.	Title of the Book	Publisher	Month/Year of Publication
1.	Microwave Engineering	McGrawHill Education Pvt Ltd	2015
2.	Communication Theory	Charulatha Publications Pvt Ltd	2017
3.	CommunicationTheory(Second Edition)	Charulatha Publications Pvt Ltd	2018
4.	Design and Development of Laplacian Pyramid Combined with Bilateral Filtering based Image Denoising	Soft Computing Systems "Springer Nature Private Limited	2018
5.	Non Subsampled contourlet transform Based effective denoising of Medical Images using Contourlet	IGI Global Publisher	2018

Google Scholar report:

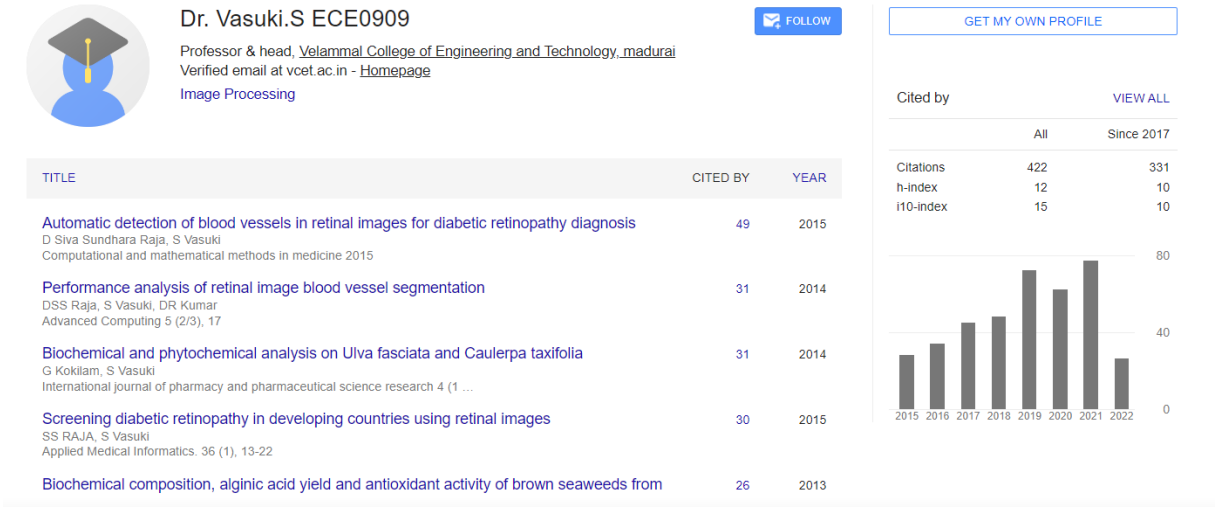

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Image Processing

TITLE	CITED BY	YEAR
Automatic detection of blood vessels in retinal images for diabetic retinopathy diagnosis D Siva Sundhara Raja, S Vasuki Computational and mathematical methods in medicine 2015	49	2015
Performance analysis of retinal image blood vessel segmentation DSS Raja, S Vasuki, DR Kumar Advanced Computing 5 (2/3), 17	31	2014
Biochemical and phytochemical analysis on Ulva fasciata and Caulerpa taxifolia G Kokilam, S Vasuki International journal of pharmacy and pharmaceutical science research 4 (1 ...	31	2014
Screening diabetic retinopathy in developing countries using retinal images SS RAJA, S Vasuki Applied Medical Informatics. 36 (1), 13-22	30	2015
Biochemical composition, alginic acid yield and antioxidant activity of brown seaweeds from	26	2013

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Research Supervisor:

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Minutes of the First Doctoral Committee Meeting

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Minutes of the Synopsis DC Meeting & Examiner's Panel

Minutes for Thesis Resubmission

Panel of Subject Experts for Viva-Voce Examination

Ph.D/M.S(Research) Public Viva-Voce Notification

Proceedings for Viva-Voce Examination

Claim form and Account Particulars Submission

Synopsis / Thesis Status

Semester Progress Report Approval

Document Despatched Status

July 2022 - Dec 2022

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