Dr. GOPALAKRISHNAN SETHUMADHAVAN

Curriculum Vitae

Name : Gopalakrishnan Sethumadhavan   *email:* **dode@sastra.edu** *;*
sgk@mca.sastra.edu
https://orcid.org/0000-0003-1660-3861
Scopus ID: 35115512800
Member in Professional body: CSI , IAENG, ORSI and ISSE

Present Position **Director, Department of Online & Distance Education**
Professor and Associate Dean, Department of Computer Applications

Departments 1. Directorate of Online and Distance Education
2. Department of Computer Applications, School of Computing

Off. Address Dr. S.Gopalakrishnan, Ph.D
Director
Directorate of Online and Distance Education
SASTRA University
Thanjavur 613 401
Tamil Nadu, India.
Phone: 0431 – 264101-108, Extn. 183

Res. Address RadhaMadhavan Bhavanam
No 8 Thendral Nagar (N) Extension
Trichy – 620 013
Tamil Nadu, India.
Phone: 0431 – 730264; Mobile: 08220580525

Date of Birth 5th May 1963; Age: 57 years and 7 months
Nationality INDIAN
Sex Male
Marital Status Married

Academic Qualifications

2006 **Doctor of Philosophy (Ph.D.)** SASTRA University, India.
Thesis: *Biomedical Image Processing and its Applications to Clinical Diagnosis.*

2000 **Master of Computer Applications (M.C.A.)** - **I class**, Bharathidasan University, Trichy, India.

1995 **Master of Technology (M.Tech) – Quality Assurance Technology –I Class** - Part Time –Regional Engineering College, Trichy - Bharathidasan University, India

1989 **Post Graduate Diploma in Computer Applications – I Class** – Nehru Memorial College – Bharathidasan University, Trichy.

1987 **Mater of Philosophy (M.Phil. - Mathematics) –** National College- Bharathidasan University, Trichy, India.

1985 **Master of Science (M.Sc. - Mathematics)** – **I Class**, National College – Bharathidasan University, Trichy, India.

1983 **Bachelor of Science (B.Sc., - Mathematics)** – **I class**, National College – Madras University, Trichy, India.

Area of Specialization: Digital Image Processing, Evolutionary Algorithms and Software Engineering.

WORK EXPERIENCE

S.No.	Position held	Period	Place of Work
1	**Director - DODE**	**1.12.2018 to till date**	
2	**Associate Dean, Department of CA**	05.12.2009 to Till Date	SASTRA University, Thanjavur – 613 401
3.	**Professor**	01.01.2006 to 04.12.2009	
4	**Assistant Professor**	01.02.2001 to 31.12.2009	
5	**Senior Lecturer**	01.08.1997 to 31.01.2005	Shanmugha College of Engineering, Thanjavur – 613 401
6	**Lecturer**	18.06.1992 to 31.07.1997	
7	**Associate Lecturer**	03.01.1990 to 17.06.1992	
8	**Part – Time Lecturer**	01.08.1986 to 31.12.1989	National College, Trichirapalli-1

Total Work Experience as on Date (as on 18th September, 2019): 34 years and 4 months

LIST OF PUBLICATIONS (Total Impact Factor (TR)) – 10.513

1. Raja Marappan; Gopalakrishnan Sethumadhavan: Complexity analysis and stochastic convergence of some well-known evolutionary operators for solving graph coloring problem, Mathematics, Special Issue of Graph-Theoretic Problems and Their New Applications 2020, Volume 8, Issue 3 (10.3390/math8030303). DOI: https://doi.org/10.3390/math8030303 **(SCIE Impact factor: 1.747)**
2. Sivapathi Arunachalam, Dr.S.Gopalakrishnan, Presented the paper titled "Performance Analysis of Various Spatial filters on Noisy Images – A Quantitative Approach" in IEEE International Conference on Intelligent Computing, Instrumentation and Control Technologies July 2019.
3. Sankaran S, Hagerty J.R, Malarvel M, Sethumadhavan G, Stoecker W.V, "A comparative Assessment of Segmentations of Skin Lesion Through Various Engropy and Sis Sigma Threshold", Proceedings of the International Conference

on ISMAC in Computational Vision and Bio-Engineering 2018, Lecture Notes in Computational Vision and Biomechanaics, Vol 30. Springer, Cham **(SOCUPS Indexed)**

4. N. Senthil Anand, Dr. Raja Marappan, Dr. Gopalakrishnan Sethumadhavan, " Performance Analysis of SAR Image Speckle Filters and its Recent Challenges", 2018 IEEE International Conference on Computational Intelligence and Computing Research **DOI:** 10.1109/ICCIC.2018.8782425 **(SCOPUS Indexed)**

5. S.Sankaran and G.Sethumadhavan, "Entropy Based Colour Spilitting in Dermoscopy Images to Identify Internal Borders", 2018 International Conference on Inventive Research in Computing Applications (ICIRCA), Coimbatore, India, 2018, pp.771-774 doi: 10.1109/ICIRCA.2018.8597177 **(SOCUPS Indexed)**

6. Raja Marappan; Gopalakrishnan Sethumadhavan: Solution to Graph Coloring Using Genetic and Tabu Search Procedures. Arab J Sci Eng, DOI 10.1007/s13369-017-2686-9 (2017) **(SCI, Impact Factor: 1.518)**

7. Srinivasan Sankaran, Muthukumaran Malarvel, Gopalakrishnan Sethumadhavan, Dinkar Sahal, "Quantitation of Malarial parasitemia in Giemsa stained thin blood smears using Six Sigma threshold as preprocessor" Optik - International Journal for Light and Electron Optics, Vol. 145(2017). pp. 225–239. - **SCI Indexed (IF:2.187)**

8. Muthukumaran Malarvel, Gopalakrishnan Sethumadhavan, Purna Chandra Rao Bhagi, Soumitra Kar, Saravanan Thangavel, Arunmuthu Krishnan, "Anisotropic diffusion based denoising on X-radiography images to detect weld defects", Digital Signal Processing, Vol. 68(2017), pp. 112–126 - **SCI Indexed (IF: 2.871).**

9. Muthukumaran Malarvel, Gopalakrishnan Sethumadhavan, Purna Chandra Rao Bhagi, Soumitra Kar, Saravanan Thangavel, "An improved version of Otsu's method for segmentation of weld defects on X-radiography images", Optik - International Journal for Light and Electron Optics, Vol. 142(2017), pp. 109-118. **SCI Indexed (IF 2.187)**

10. Raja Marappan; Gopalakrishnan Sethumadhavan: Solving Channel Allocation Problem using New Genetic Algorithm with Clique Partitioning Method. IEEE International Conference on Computational Intelligence and Computing Research (ICCIC 2016) (2017) **(SCOPUS Indexed).**

11. Muthukumaran Malarvel, Gopalakrishnan Sethumadhavan, Purna Chandra Rao Bhagi, Saravanan Thangavel, Arunmuthu Krishnan, "Region growing based segmentation with automatic seed selection using threshold techniques on X-radiography images", 2016 IEEE International Conference on Computational Intelligence and Computing Research (ICCIC) – **Bagged Best Paper Award**. **(SCOPUS Indexed)**

12. Anantharaman Gopalakrishnan, Senthil Anand Narayanasamy, Gopalakrishnan Sethumadhavan, Performance evaluation of image smoothing on CPU and GPU using multithreading – An experimental approach in Higher Performance Computing", 2016 IEEE International Conference on Computational Intelligence and Computing Research (ICCIC) – **Bagged Best Paper Award**. **(SCOPUS Indexed)**

13. Raja Marappan; Gopalakrishnan Sethumadhavan: Solution to Graph Coloring Problem using Divide and Conquer based Genetic Method. International

Conference On Information Communication And Embedded System (ICICES 2016) (2016)   **(SCOPUS Indexed)**

14. Raja Marappan; Gopalakrishnan Sethumadhavan: Divide and Conquer based Genetic Method for Solving Channel Allocation. International Conference On Information Communication And Embedded System (ICICES 2016) (2016) **(SCOPUS Indexed)**

15. Raja Marappan; Gopalakrishnan Sethumadhavan: Solving Fixed Channel Allocation using Hybrid Evolutionary Method. ICAET, MATEC Web of Conferences 57, 02015 (2016) **(SCOPUS Indexed)**

16. Prakash Venkatraman and Goplakrishnan S. "An Efficient Regression Testing Test Suite Optimization System with Quality Metrics," Journal of Computational and Theoretical Nanoscience,Pages 6754-6763, Vol 13, 2016 (**SCOPUS Indexed)**

17. Raja Marappan; Gopalakrishnan Sethumadhavan: Solution to Graph Coloring Problem Using Heuristics and Recursive Backtracking. International Journal of Applied Engineering Research 10 (10) 25939-25944 (2015) **(SCOPUS Indexed)**

18. Raja Marappan; Gopalakrishnan Sethumadhavan: Solution to Graph Coloring Problem using Evolutionary Optimization through Symmetry-Breaking Approach. International Journal of Applied Engineering Research 26573-26580 (2015) **(SCOPUS Indexed)**

19. Raja Marappan; Gopalakrishnan Sethumadhavan: Solving Graph Coloring Problem For Large Graphs. Global Journal of Pure and Applied Mathematics 2487-2495 (2015) **(SCOPUS Indexed)**

20. S.Gopalakrishnan Sethumadhavan and Srinivasan Sankaran, "Quantifications of Asymmetries on the Spectral Bands of Malignant Melanoma using Six Sigma Threshold as Preprocessor", Third International Conference on Computational Intelligence and Information Technology (CIIT 2013), Mumbai, 2013, pp 80-86 doi: 10.1049/cp.2013.2575 **(SCOPUS indexed)**

21. Gopalakrishnan Sethumadhavan; Raja Marappan: A Genetic Algorithm for Graph Coloring using Single Parent Conflict Gene Crossover and Mutation with Conflict Gene Removal Procedure. IEEE International Conference on Computational Intelligence and Computing Research 350-355 (2013) **Bagged Best Paper Award**. **(SCOPUS Indexed)**

22. Raja Marappan; Gopalakrishnan Sethumadhavan: A new genetic algorithm for graph coloring. 5th International Conference on Computational Intelligence, Modelling and Simulation 49-54 (2013) **(SCOPUS Indexed)**

23. Gopalakrishnan Sethumadhavan, Prakash Venkatraman and Bhaskaran Sundaresan, "Leading the Change of Perception of Software testing among University Students" ICCET 2010. Vol 4, 16-18, April 2010 Chengdu, pp535-538 - Digital Object Identifier: 10.1109/ICCET.2010.5485419 **(Scopus Indexed)**

24. Sethumadhavan Gopalakrishnan, and Sankaran Srinivasan, "Border Detection and Cancer Propagation on Spectral Bands of Malignant Melanoma using Six Sigma Threshold", Eight IEEE/ACIS International Conference on Computer and Information Science, pp 586-592, 2009. **(Scopus Indexed)**

25. M Muthukumaran, L Prabaharan ,A Sivapathi, and S Gopalakrishnan, "A Comparative Analysis Of An Anisotropic Diffusion Image Denoising Methods

On Weld X-Radiography Images", Far East Journal of Electronics and communications, Vol. 17(2017), pp.267-281. **(SCOPUS Indexed)**

26. M Muthukumaran, A Sivapathi, L Prabaharan and S Gopalakrishnan, "Performance analysis of thresholding techniques on weld x-radiography images" ARPN Journal of Engineering and Applied Sciences, Vol. 11(2016), pp.12836-12842. **(SCOPUS Indexed)**

27. M Muthukumaran, A Sivapathi, L Prabaharan and S Gopalakrishnan, "Discovery Of Noise Existence And Noise Level Estimation In Weld X-Radiography Images Using Anisotropic Diffusion Model", Far East Journal of Electronics and communications, Vol. 17(2017), pp. 351-359. **(SCOPUS Indexed)**

28. Raja Marappan; Gopalakrishnan Sethumadhavan: A new genetic algorithm for graph coloring. 5thInternational Conference on Computational Intelligence, Modelling and Simulation 49-54 (2013) **(SCOPUS Indexed)**

29. Prakash Venkatraman and Gopalakrishnan Sethumadhavan, "Testing efficiency exploited: Scripted versus Exploratory Testing" ICECT 2011, Vol 3, pp168-172, 8-10 April 2011, Kanyakumari, India – Digital Object Identifier: 10.1109/ICECTECH.2011.5941824. **(Scopus Indexed)**

30. Prakash.V and Goplakrishnan S. "Cloud Computing Solution – Benefits and Testing Challenges," Journal of Theoretical and Applied Information Technology, Volume 30. No 2, May 2012. **(SCOPUS Indexed).**

31. Raja Marappan; Gopalakrishnan Sethumadhavan; R.K. Srihari: New approximation algorithms for solving graph coloring problem - An experimental approach. **Elsevier, Perspectives in Science** 8, 384 - 387 (2016) **(DOAJ)**

32. Raja Marappan; Gopalakrishnan Sethumadhavan; Harimoorty U: Solving Channel Allocation Problem using New Genetic Operators - An Experimental Approach. **Elsevier, Perspectives in Science** 8, 409-411 (2016) **(DOAJ)**

33. Prakash.V and Goplakrishnan S. "Software as a Service(SaaS) Testing Challenges – An In-depth Analysis", IJCSI Research Journal, Volume 9, Issue 3, No 3 , May 2012.

34. S.Gopalakrishnan Sethumadhavan and Srinivasan Sankaran, " Six Sigma Thresholding on Spectral Bands of Malignant Melanoma", Proceedings of International Multi Conference of Engineers and Computer Scientists 2009, Hong Kong, 18-20 March 2009. **(INSPEC Indexed).**

35. Micro Level analysis for incidence and propagation of skin cancer through Quality Control Tool - Proceedings of XXXVIII National Convention 2003 of Computer Society of India 11-13 December 2003 at IIT Delhi.

36. Six Sigma Thresholding and Multivariate Analysis of Skin Cancer Detection - Proceedings of the International Conference on Number Theory and Fourier Techniques, December 20 and 21 at SRC, SASTRA.

37. Chromaticity Analysis for diagnosis of Melanoma Skin Cancer - Proceedings of National Conference of Image Processing with focus of Medical Applications, March 22-25, 2005, TIFAC-CORE in Digital Image Processing, MSR School of Advanced Studies, Bangalore, India.

38. Thiyagarajan M and Gopalakrishnan S, and Jagannathan B. "Pattern Identification of fingerprints using colour spread process index," ACCST Research Journal, pp 83-93 Volume 1, N0.2, April 2003.

39. Thiyagarajan M and Gopalakrishnan S. "Micro level analysis for incidence and propagation of skin cancer through Quality Control Tool," Proceedings of XXXVIII National Convention of Computer Society of India 2003.
40. Thiyagarajan M and Gopalakrishnan S. "Mask formulation for Medical Images – Suggestion for Medication, Applied Science Periodicals, 1st February 2003.

Funded Research Projects:

1. Research Project entitled "Development of techniques for processing radiographic images for automated detection of defects – Funded by BRNS. Collaborator IGCAR and BARC – Fund received: Rs. 22,76,300/- - Completed: August 2017 (No.2013/36/40-BRNS/2305).

Software Packages Developed:

1. Generic image processing software named "Bhadraloka" has been developed with the funding assistance from BRNS. Has been installed in IGCAR, BARC and NIOT – Research Labs.
2. An application package has been developed to detect malaria infected RBCs from thin blood smear images in collaboration with ICGEB – Has been installed in ICGEB, New Delhi
3. An application package has been developed to quantify melanoma cancer and also to detect internal borders from microscopic/dermoscopic skin images in collaboration with Prof .Williams Stoker, USA

Number of Research Scholars Guided: THREE

1. Dr.M.Raja, Thesis title: Solution to Graph Coloring Problem and its Application using Approximation and Evolutionary Methods – Awarded Doctor of Philosophy in August 2018.
2. Dr.M.Muthukumaran, Thesis title: Detection and classification of Weld defects in digital X-radiography images – Awarded Doctor of Philosophy in August 2018
3. Dr.Srinivasan Sankaran, Thesis title: Image Feature Extraction using Six Sigma Threshold as Preprocessor – Awarded Doctor of Philosophy in July 2019

Book Chapters Written:

1. Contributed a book chapter in "Lecture Notes in Computational Vision and Biomechanaics, Vol 30. Springer, Cham with Sankaran S, Hagerty J.R, Malarvel M, Stoecker W.V, as coauthors. Titled "A comparative Assessment of Segmentations of Skin Lesion Through Various Entropy and Sis Sigma Threshold" and published in the Proceedings of the International Conference on ISMAC in Computational Vision and Bio-Engineering 2018.

Organizing Committee and Session Chaired:

1. "International Conference on Advances in Computing Applications 2018 (ICACA-18)" on 26th & 27th February 2018 at National Institute of Technology Srinagar (Garhwal) Uttarakhand – Member Advisory Committee.
2. International Conference on Advanced Recent Trends In Computing & Information Technology (ICARCIT-1G.H) Raisoni College of Engineering,Pune, India on 15th & 16th March 2018 – Member Organizing Committee.
3. International Multi Conference of Engineers and Computer Scientists 2009 at Hong Kong 18-20 March, 2009. – Session Chair.

MHRD, India sponsored Leadership Programme (LEAP):

Attended Leadership for Academicians Programme (LEAP), a three weeks flagship Leadership Development training programme (2 weeks domestic and one week foreign training) for second level academic functionaries in public funded higher education institutions under the Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching (PMMMNMTT) Scheme.

IIT Kharagpur, India– 11th-22nd November 2019
IFM Cambridge University, United Kingdom – 6th-10th January 2020.