National Institute of Technology, Tiruchirappalli: Performa for CV of Faculty/ Staff Members

Curriculum Vitae

1. Name: Dr. Varun P. Gopi

2. Designation: Assistant Professor Grade-I (AGP-8000)

3. Office Address: Room 326, Department of ECE, NIT Tiruchirappalli-620015

4. Researcher ID: D-2131-2017
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8. Field(s) of Specialization: Signal Processing, Medical Image Processing, Deep Learning, AI., Augmented Reality in Healthcare, IoT in Healthcare

9. Aadhaar No:

10. Date of Birth:

11. Employment Profile

Job Title	Employer	From	To	Pay Scale
Assistant Professor	National Institute of Technology Tiruchirappalli, Tamilnadu	28/05/18	Till date	101500-167400
Assistant Professor	Government Engineering College Wayanad, Kerala	11/11/13	25/05/18	15600-39100 (AGP-6000)
Assistant Professor	Amal Jyothi College of Engineering, Kanjirappally, Kerala	01/01/10	31/05/10	8000-275-13500

Academic Qualifications (From Highest Degree to High School):

Examination	Board / University	Year	Subjects
Ph.D.	National Institute of Technology, Tiruchirappalli, Tamilnadu	2014	Medical Image Processing
M. Tech.	College of Engineering Trivandrum, University of Kerala	2009	Electronics & Communication Engineering (Specialization in Signal Procesing)
B. Tech.	Amal Jyothi College of Engineering, Kanjirappally, Mahatma Gandhi University Kottayam	2007	Electronics & Communication Engineering

12. Details of Major R&D Sponsored Projects

Title of Project	Funding Agency	Duration	Status Ongoing/ Completed
Development of Efficient Algorithms for Detecting Eye Diseases	CERD-APJAKTU Trivandrum, Kerala	06-01-17 to 25-05-18	Completed (7.5 Lakhs)
Developed Efficient Traffic Monitoring Methods & Under Vehicle Scanning Inspection System	VANDI Technologies PTE LTD, Singapore	01-12-18 to 30-11-21	Ongoing (40 Lakhs)
Automated Prediction of Alzheimer's disease from Optical Coherence Tomography Images of Retina using Artificial Intelligence	Science and Engineering Research Board	02-03-19 to 01-03-22	Ongoing (19.48 Lakhs)
4D Trajectory based Air Traffic Flow Management System using System Wide Information Management (4DADFMS)	Airport Authority of India	19-11-20 to 18-11-21	Ongoing (11.5 Lakhs)

13. PhDs Guidance

Name of the PhD Scholar	Title of PhD Thesis	Role(Supervisor/ Co-Supervisor)	Year of Award
Manu Raju	Prediction of progression rate of Mild Cognitive Impairment to Alzheimer's Disease	Supervisor	Ongoing
Nija K. S.	Localization and segmentation of Optic Disc, Fovea and Blood Vessels for Detection of Eye diseases	Supervisor	Ongoing
Gayathri S	Development of efficient methodologies for diabetic retinopathy detection and classification.	Supervisor	2021
Sabi S.	Development of efficient algorithms to segment retinal OCT images	Supervisor	Ongoing
Harikrishnan P M	Developed efficient traffic monitoring methods and under vehicle scanning inspection system	Supervisor	Ongoing
Sunija A P	Automated prediction of Alzheimer's disease from Optical Coherence Tomography Images of Retina using Artificial Intelligence	Supervisor	Ongoing
Nisha J S	Capsule Endoscopic image enhancement and abnormality detection	Supervisor	Ongoing
R. Shalini	Segmentation and localization of optic disc and Fovea from diabetic retinopathy image	Supervisor	Ongoing

Arun P. S	Development of Algorithms for denoising OCT Images	Supervisor	Ongoing

14. Established R&D Collaboration Abroad

1. Dr. Khan A. Wahid, Professor, Department of Electrical and Computer Engineering, University of Saskatchewan, Canada
2. Dr. Issac Niwas S, Research Manager, Emirates Advanced Research & Technology Holding (EARTH), Abudabi, UAE.
3. Dr. T. Kirubarajan, Professor and Distinguished Engineering Professor, Electrical and Computer Engineering Department (ITB-A112), McMaster University, Canada
4. Lyudmila Mihaylova, Professor of Signal Processing and Control, Department of Automatic Control and Systems Engineering, University of Sheffield, UK
5. Dr. Ebrahim Bedeer Muhamed, Assistant Professor, Department of Electrical and Computer Engineering, University of Saskatchewan, Canada
6. Dr. Mak Sharma, Professor in Computer Science Education. Centre Lead, Cloud Computing, Birmingham City University, UK

15. Established R&D Collaboration-National

1. Wangchuk Doma, Ophthalmologist/Eye Surgeon, Venu Eye Institute and Research Centre, New Delhi 110017, India

16. Awards, Associateships etc.

Year of Award	Name of the Award	Awarding Organization
2012	Best Paper Award	International Conference on Information Processing (ICIP)
2017	Researcher of the Year 2016	CERD-APJAKTU, Kerala

17. Fellowships

Year of Award	Name of the Fellowship	Awarding Organization	From (Month/Year)	To (Month/Year)
2012	Canadian Commonwealth Scholarship	Government of Canada	February 2012	July 2012
2010	Research Fellowship	MHRD	August 2010	October 2013
2007	Gate Fellowship	MHRD	October 2007	October 2009

18. Books & Monographs

Author(s)	Title of Book/Monograph	Name of Publishers	Year of Publication
Dr. V Suresh Babu, Dr. Varun P. Gopi	Basics of Electronics Engineering	OWL Publishers	2015
Dr. V Suresh Babu, Dr. Varun P. Gopi	Introduction to Electronics Engineering	OWL Publishers	2015

Book Chapters:

1. Varun P. Gopi, P. Palanisamy, Issac Niwas S. (2012) Capsule Endoscopic Colour Image Denoising Using Complex Wavelet Transform. In: Venugopal K.R., Patnaik L.M. (eds) **Wireless Networks and Computational Intelligence**. ICIP 2012. Communications in Computer and Information Science, vol 292. Springer, Berlin, Heidelberg
2. Athira K Brijmohan K Varun P. Gopi Riyas K K Garnet Wilson Swetha T. (2018) A Review on the methods of Despeckling of Optical Coherence Tomography. **Emerging Trends in Engineering, Science and Technology for Society, Energy and Environment: Proceedings of the International Conference in Emerging Trends in Engineering, Science and Technology (ICETEST 2018)**, January 18-20, 2018, Thrissur, Kerala, India, CRC Press.
3. Varun P. Gopi, Brain tissue Segmentation to detect Schizophrenia in Gray Matter Using MR Images, **Handbook of Decision Support Systems for Neurological Disorders**, First Edition, pp. 21-32, 2021.
4. Strivathsa Ramamoorthy, Varun P. Gopi, Breast Ultrasound Image Processing, **Handbook of Research on Deep Learning-Based Image Analysis Under Constrained and Unconstrained Environments**, IGI Global, 2021, pp. 44-69.
5. Swatthi Vijay Sanker, Nivetha B, Ramya Sri Bilakani, Anju Thomas, Varun P Gopi and Palanisamy P, Emotion Recognition based Music Therapy System using Electroencephalography Signals, **Edge-of-Things in Personalized Healthcare Support Systems: Concepts, Practices, and Applications, Elsevier,** in press.
6. Avinash A, Biju P, Prapu Premanath, Anju Thomas and Varun P Gopi, An improved Method for Automated detection of Microaneurysm in Retinal Fundus Images, **Edge-of-Things in Personalized Healthcare Support Systems: Concepts, Practices, and Applications, Elsevier,** in press.
7. Anju Thomas, Harikrishnan P M and Varun P Gopi, FunNet: A deep learning network for the detection of Age-Related Macular Degeneration, **Edge-of-Things in Personalized Healthcare Support Systems: Concepts, Practices, and Applications, Elsevier,** in press.

19. Membership of Learned Societies

Type of Membership (Ordinary Member/ Honorary Member / Life Member)	Organization	Membership No. with date
Professional Member	IEEE	94396556
Member & Chartered Engineer	IEI	M-162140-2

20. Academic/Administrative Responsibilities within the University

Position	Faculty/Department/Centre/Institution	From	To
Advisor	Music Club, NITT	1 June 2018	Till date
Staff Advisor-PG	Department of ECE	01-01-2019	Till Date
Time Table Coordinator	Department of ECE	01-01-2019	Till Date

21. Academic/Administrative Responsibilities outside the University

Position	Institution	From	To
Member-Academic Council	Government Engineering College Wayanad	2015	2016
Placement Officer	Government Engineering College Wayanad	2014	2018
IEEE Student Branch Counsellor	Government Engineering College Wayanad	2014	2016

22. Details of Academic Work

(i) Curriculum Development

Position	Institution
Curriculum Committee Member for B-Tech Applied Electronics and Instrumentation	APJ Abdul Kalam Kerala Technological University (APJAKTU)
Member of the PG Board of studies	Kannur University, Kerala
B-Tech Question paper setting expert committee member	APJ Abdul Kalam Kerala Technological University (APJAKTU)
PG-Staff Advisor	Government Engineering College Wayanad

(ii) Courses taught at Postgraduate and Undergraduate levels

Undergraduate Subjects	Post Graduate Subjects
Solid State Devices	Array Signal Processing
DSP for Medical Image Processing	Multirate Signal Processing
Digital Image Processing	Research Methodology
Signal & Systems	Advanced DSP
Analog Integrated Circuits	Linear Algebra for Signal Processing
Digital Signal Processing	Wavelet Signal Processing

(iii) Projects guided at Postgraduate level

Sl. No.	Project Title	Student Name	Year of Completion
1	Dual Tree Complex Wavelet Transform Based Wireless Capsule Endoscopic Image Enhancement.	Aswani Arayakandy	2014
2	Bleeding Detection in Wireless Capsule Endoscopic Images.	Mekha Mathew	2014
3	Ulcer Detection In Wireless Capsule Endoscopic Images.	Nimisha Elsa Koshy	2014
4	Automated Colon Cancer Detection Using Hybrid Model.	Beema Akbar	2014
5	Restoration of Faded Mural Images by Image Processing Technique.	Ajay Sagar G. S.	2015
6	Modified Brain MRI Segmentation to Detect Atrophic Disease.	Beejesh A. G.	2015

7	A Novel Method for Bleeding Detection in Wireless Capsule Endoscopic Images.	Dilna C.	2015
8	Identification of Ayurvedic Medicinal Plants by Image Processing of Leaf Samples.	Manojkumar P.	2015
9	Novel Method for Fog Removal using Image Processing.	Nimisha Rajan	2015
10	Analog CMOS Implementation of FFT using cascode current mirror.	Reshma P. G.	2015
11	Generalization of Various Transforms Used for Digital Signal Processing.	Resmi Raveendran	2015
12	Compressed sensing image reconstruction based on wavelet and shearlet transform.	Nija K. S.	2015
13	Detection of Alzheimer Disease In Brain Magnetic Resonance Images.	Aswathy P.	2016
14	Bleeding Detection in Endoscopic Images.	Mazeera Moidu	2016
15	Early Detection of Esophageal Cancer From Endoscopic Images Using Complex Wavelet Transform and Fractal Dimension.	Nidhisha K. M.	2016
16	CT Image Denoising Using Edge Adaptive Total Variation And Augmented Lagrangian Method	Silpa Sivan	2016
17	Image Restoration Using Blind In-painting.	Sreya Ramesh	2016
18	Early Detection of Schizophrenia Using MR Images.	Liji C. V.	2016
19	Glaucoma Detection and Classification using Digital Fundus Images.	Kausu T. R.	2016
20	Hybrid Regularization Based Edge Preserving Image Reconstruction.	Anusha T. S.	2016
21	Design of Reconfigurable Transform for Signal Processing.	Anupama C. P.	2016
22	Development of an efficient algorithm for Medicinal Plant Identification.	Surya C. M.	2016
23	Carrier Frequency Offset Compensation in Uplink OFDMA.	Fasna K. K.	2016
24	Development of an Efficient Method for Deconvolution of Micro OCT Images	Prapu P.	2017
25	PCA Based Localization Approach for Segmentation of Optic Disc	Anjali M. S.	2017
26	Acceleration Vibration Signal Processing for Road Surface Monitoring	Harikrishnan P. M.	2017
27	Biometric Identification using Dorsal Hand Veins	Nadiya K.	2017
28	Detection of Macular Edema and Central Serous Retinopathy from OCT Images	Jemshi K. M.	2017
29	Automatic Detection of Microaneurysm in Retinal Fundus Images	Avinash A.	2017
30	Speckle Noise Reduction Methods for Retinal OCT Images	Nidhin N. K.	2018
31	Automatic Detection of Lesion in Retinal Fundus Images	Santhikumar K.	2018
32	Sparsity Based Approach for Accurate Heart Rate Monitoring During Physical Exercises from PPG Signals	Anju Thomas	2018
33	Prediction of Mild Cognitive Impairment to Alzheimer's Disease Using Structural MRI	Sudila T. V.	2018
34	Sparse signal processing based ECG denoising	Hanima Kannan	2018

35	Development of an efficient method for colour image restoration	Aiswarya Suresh	2018
36	Development of efficient algorithms to segment retinal OCT images	Maniyar Shubham	2020
37	Image Stitching Algorithm For Large Parallax	V Bhargava Krishna	2021
38	Hardware Implementation of Edge Detection Algorithm for Low Power and High Speed	Kinshuk	2021

(iv) Other contribution(s)

Position	Institution
PG-Staff Advisor	Government Engineering College Wayanad
Department Time Table Co-ordinator	Government Engineering College Wayanad
Lab in Charge-Bio signal Lab, PG Research Lab, VLSI Lab	Government Engineering College Wayanad

23. Participation in Workshops/ Symposia/ Conferences/ Colloquia /Seminars/ Schools etc. (mentioning the role)

Date (s)	Title of Activity	Level of Event	Role	Event Organized by	Venue
01-03-2017	4th National conference on Recent Advances in Engineering and Technology	National	Speaker	LBS College of Engineering, Kasargod, Kerala	LBS College of Engineering, Kasargod, Kerala
1-2 March 2017	4th National conference on Recent Advances in Engineering and Technology	National	Chair	LBS College of Engineering, Kasargod, Kerala	LBS College of Engineering, Kasargod, Kerala
29-30 September 2016	International Conference on information systems, Energy, Environment and Safety-Emerging Scenarios	International	Chair	Government Engineering College Barton Hill, Trivandrum, Kerala	Government Engineering College Barton Hill, Trivandrum, Kerala
19-20 August 2016	5th National Conference on Emerging	National	Chair	Government Engineering College Barton	Government Engineering College Barton

	Technologies			Hill, Trivandrum, Kerala	Hill, Trivandrum, Kerala
09-11 December 2015	International Conference on Emerging Trends in Engineering, Science and Technology	International	Chair	Government Engineering College Thrissur, Kerala,	Government Engineering College Thrissur, Kerala,
11-12 September 2015	16th National Conference on Technological Trends	National	Chair	College of Engineering Trivandrum, Thiruvananthapuram, Kerala	College of Engineering Trivandrum, Thiruvananthapuram, Kerala
22-23 August 2015	15th National Conference on Technological Trends	National	Chair	College of Engineering Trivandrum, Thiruvananthapuram, Kerala	College of Engineering Trivandrum, Thiruvananthapuram, Kerala
26-28 March 2014	GECian National Conference on Communication & Signal Processing	National	Chair	Government Engineering College Idukki ,Kerala	Government Engineering College Idukki ,Kerala
28 November-2 December 2016	STTP on Matlab and its Hardware Interface	National	Participant	NITTTR, Chandigarh	NITTTR, Chandigarh
30 June-2 July 2016	Pedagogical Training	National	Participant	TLC, IIT Madras	IIT Madras
25-27 March 2016	Medical Imaging: Techniques & Image Processing Workshop	National	Participant	IIT Delhi	IIT Delhi
15-17 December 2014	3rd National Knowledge Network (NKN)	National	Participant	NKN	IIT Guwahati

	National Workshop				
10-15 November 2014	Workshop on Fire Safety and Rescue Operations in Industry and Organizations on Emergency	Local	Participant	Government Engineering College Wayanad	Government Engineering College Wayanad
13-18 October 2014	Pedagogical training in Engineering Education	Local	Participant	Government Engineering College Wayanad	Government Engineering College Wayanad
31 March-1 April 2014	Workshop on Strategic Planning and Institutional Governance	Local	Participant	Government Engineering College Wayanad	Government Engineering College Wayanad
10-14 March 2014	STTP on Hybrid Renewable Energy sources and Systems	National	Participant	Government Engineering College Wayanad	Government Engineering College Wayanad
15-17 January 2014	Research Methodology and Intellectual Property Rights	Local	Participant	Government Engineering College Wayanad	Government Engineering College Wayanad

24. Workshops/ Symposia/ Conferences/ Colloquia/Seminars Organized (as Chairman/ Organizing Secretary/ Convenor / Co-Convenor)

Title of Activity	Level of Event (International/ National/ Local)	Date (s)	Role	Venue
Conference	National	26-28 May 2016.	Organizing Secretary	Government Engineering College Wayanad
STTP on Electronics in Medical Diagnosis	National	22-27 September	Coordinator	Government Engineering

		2014		College Wayanad
STTP on Hybrid Renewable Energy sources and Systems	National	10-14 March 2014	Co-coordinator	Government Engineering College Wayanad
FDP on Introduction to Verilog & VHDL Programming	Local	30-03-15 to 31-03-15	Coordinator	Government Engineering College Wayanad
FDP on Latest Trends in Embedded System Designing	Local	20-04-15 to 25-04-15	Coordinator	Government Engineering College Wayanad
FDP on Estimation and Detection Theory	Local	13-10-2015 to 14-10-2015	Coordinator	Government Engineering College Wayanad
FDP on Optical Signal Processing	Local	28-10-2015 to 30-10-2015	Coordinator	Government Engineering College Wayanad
FDP Programme workshop on ARM processor and Arduino	Local	26-02-2016 to 28-02-2016	Coordinator	Government Engineering College Wayanad
FDP program for Antenna designing using HFSS	Local	4-03-2016 to 6-03-2016	Coordinator	Government Engineering College Wayanad
FDP on safety measures and Precautions to be taken in Laboratory	Local	28-03-2016 to 31-03-2016	Coordinator	Government Engineering College Wayanad

25. Invited Talks delivered

Topic	Date	Inviting Organization
Sparsity in Signal Processing	17-03-2014	Government Engineering College Calicut
MATLAB: Concept and Programming	12-02-2015	Younus College of Engineering, Kollam Kerala
Research Methodology	26-01-2015	Government Engineering College Calicut, Kerala
Sparsity in Signal Processing	18-08-2015	Government Engineering College Kannur,

		Kerala
Compressed Sensing	23-09-2015	College of Engineering Thalassery, Kerala
Data Mining With MATLAB	18-08-2016	Government Engineering College Sreekrishnapuram, Palakkad, Kerala
Application of Signal Processing	24-11-2016	College of Engineering Kidangoor, Kerala
Medical Image Processing	03-02-2017	Government Engineering College Sreekrishnapuram, Palakkad
Image Processing in Medical Field	21-02-2017	Government Engineering College Sreekrishnapuram, Palakkad, Kerala
Sparse Signal Processing	01-03-2017	LBS College of Engineering, Kasargod, Kerala
Mathematical Modelling in Medical Diagnosis	21-09-2017	Mahendra College of Engineering, Salem, Tamilnadu
Introduction to Electronics Circuits	23-10-2018	Kalasalingam University Madurai
Medical Image Processing	01-01-2019	Rajadhani College of Engg. Trivandrum
Recent Trends in Biomedical Image Processing	24-06-2019	CSE Department, TKM College of Engineering
Deep Learning in Medical Image Processing and Analysis	22-08-2019 to 23-08-2019	SRM University Chennai
Research Avenues in Signal Processing	19-09-2019	Sree Chitra Thirunal College of Engineering, Trivandrum
Agriculture Intelligence	09-03-20	NSN Engineering College Karur
Exploring the Nuances of Deep Learning for Research Applications-A Deeper Experience	15-07-20	Karunya University Coimbatore
Artificial Intelligence in Healthcare	19-07-20	Kumaraguru College of Technology, Coimbatore
Machine learning Algorithms for medical image processing	04-08-20	Velalar College of engineering & technology, Erode
Machine Learning & Deep Learning	15-06-20	Sahrdaya College of engineering, Kerala
Introduction to Artificial Intelligence	22-09-20	NIT Puducherry
Overview of Deep Learning and its Applications in healthcare	28-10-20	Sreenivasa Institute of Technology and Management Studies
Implementation of Medical image Processing Using Advanced Green Computing Technology	07-11-20	Saveetha Engineering College Chennai
Internet of Medical Things	23-11-20	IIIT Trichy
Deep Learning For Medical	07-12-20	Velammal Institute of technology, Chennai

Image Analysis		

26. Academic Foreign Visits

Country	Duration of Visit	Programme
Canada	6 Months	Graduate Student Exchange Programme
Malaysia	5 Days	International Conference

27. Research Publications

International Journals

1. Deepudev Sahadevan, Palanisamy P., **Varun P. Gopi**, Manjunath K. Nelli, Predictability improvement of Scheduled Flights Departure Time Variation using Supervised Machine Learning, **International Journal of Aviation, Aeronautics, and Aerospace, vol. 8, issue 2, pp. 9, 2021.**

2. Deepudev Sahadevan, Palanisamy P., **Varun P. Gopi**, Adithya K. Krishna, G. Siva Kumar, A Machine Learning based approach to Predict Random Variation in Scheduled Flights Landing Time, **International Journal of Sustainable Aviation**, Accepted.

3. Anju Thomas, Harikrishnan P. M., **Varun P. Gopi**, P Palanisamy, A Novel Multiscale and Multipath Convolutional Neural Network based Age-related Macular Degeneration Detection using OCT images, **Elsevier Computer Methods and Programs in Biomedicine**, Accepted.

4. Anju Thomas, Harikrishnan P. M., **Varun P. Gopi**, P Palanisamy, An Automated Method to Detect Age-Related Macular Degeneration from Optical Coherence Tomographic Images, **Biomedical Engineering: Applications, Basis and Communications**, pp. 2150036, 2021.

5. Sabi S., **Varun P Gopi**, Anoop Raj J. R., Detection of Age-Related Macular Degeneration from Oct Images Using Double Scale CNN Architecture, **Biomedical Engineering: Applications, Basis and Communications**, pp. 2150029, 2021.

6. Anju Thomas, Harikrishnan P. M., Adithya K. Krishna, **Varun P. Gopi**, P Palanisamy, Automated detection of Age-related Macular Degeneration from OCT images using multipath CNN, **Journal of Computing Science and Engineering**, 15(1), pp. 34-46, 2021.

7. Gayathri S., **Varun P. Gopi**, P. Palanisamy, Diabetic Retinopathy Classification Based on Multipath CNN and Machine Learning Classifiers, **Journal of Physical & Engineering Sciences in Medicine**, pp. 1-15, 2021.

8. Dharanya V, **Varun P Gopi**, Alex Noel Joseph Raj, Facial Expression Recognition through person-wise regeneration of expressions using Auxiliary Classifier Generative Adversarial Network (AC-GAN) based model, **Elsevier Journal of Visual Communication and Image Representation**, 77, pp. 103110, 2021.

9. Anju Thomas, Harikrishnan P. M., Adithya K. Krishna, **Varun P. Gopi**, P Palanisamy, A Novel Multiscale Convolutional Neural Network based Age-related

Macular Degeneration Detection using OCT images, **Elsevier Journal of Biomedical Signal processing & Control**, Vol. 67, 102538, 2021.

10. Harikrishnan P. M., Anju Thomas, **Varun P. Gopi**, P Palanisamy, Khan A. Wahid, Inception Single Shot Multi-Box Detector with Affinity Propagation Clustering and their Application in Multi-Class Vehicle Counting, **Springer Journal of Applied Intelligence**, pp. 1-16, 2021.

11. Harikrishnan P. M, Anju Thomas, **Varun P. Gopi**, P Palanisamy, Fast Approach for Moving Vehicle Localization and Bounding Box Estimation in Highway Traffic Videos **Springer Signal, Image and Video Processing**, pp. 1-8, 2021.

12. Deepudev Sahadevan, Palanisamy P., **Varun P. Gopi**, Manjunath K. Nelli Mr, and Asok kumar K, Prediction of Gate in Time of Scheduled Flights and Schedule Conformance using Machine Learning-based Algorithms, **International Journal of Aviation, Aeronautics, and Aerospace,** 7(4), pp. 1-18, 2020.

13. Sunija A. P., Saikat Kar, Gayathri S, **Varun P. Gopi**, P Palanisamy, OctNET: A Lightweight CNN for Retinal Disease Classification from Optical Coherence Tomography Images", **Elsevier Computer Methods and Programs in Biomedicine**, pp. 105877, 2020.

14. Anju Thomas, Sunija A. P., Srikkanth Ramachandran, Rajiv Ramachandran, Rigved Manoj, **Varun P. Gopi**, P Palanisamy, RPE layer detection and baseline estimation using statistical methods and randomization for classification of AMD from retinal OCT", **Elsevier Computer Methods and Programs in Biomedicine**, pp. 105822, 2020.

15. Gayathri S, **Varun P. Gopi**, P Palanisamy, A Lightweight CNN for Diabetic Retinopathy Classification from fundus Images", **Elsevier Journal of Biomedical Signal processing & Control**, 62, pp. 102-115, 2020.

16. Harikrishnan P. M., Anju Thomas, Nisha J. S., **Varun P. Gopi**, P Palanisamy, "Pixel Matching Search Algorithm for Counting Moving Vehicle in Highway Traffic Videos" **Springer Journal of Multimedia Tools & Applications**, pp. 1-20, 2020.

17. Manu Raju, **Varun P. Gopi**, Anitha V. S., "Multi-class Diagnosis of Alzheimer's disease using cascaded Three Dimensional-Convolutional Neural Network", **Springer Journal of Physical & Engineering Sciences in Medicine**, pp. 1-10, 2020.

18. Gopinath Palanisamy, Natarajan B. Shankar, Palanisamy Ponnusamy, **Varun P. Gopi**, "A hybrid feature preservation technique based on luminosity and edge-based contrast enhancement in color fundus images," **Elsevier Journal of Biocybernetics and Biomedical engineering**, 2020.

19. Gayathri S., Adithya K, Krishna, **Varun P. Gopi**, P. Palanisamy, Automated binary and multiclass classification of Diabetic Retinopathy using Haralick and Multiresolution Features, **IEEE Access**, 8, pp. 57497-57504, 2020.

20. Gayathri S., **Varun P. Gopi**, P. Palanisamy, Automated classification of Diabetic Retinopathy through Reliable Feature Selection, **Journal of Physical & Engineering Sciences in Medicine**, 43(3), pp. 927-945, 2020.

21. Nija K. S., Anupama C. P., **Varun P. Gopi**, Anitha V. S., Automated Segmentation of Optic Disc using Statistical Region Merging and Morphological Operations, **Journal of Physical & Engineering Sciences in Medicine**, 43(3), pp. 857-869, 2020

22. Deepudev S, Palanisamy P, **Varun P Gopi** and Manjunath K Nelli, Performance improvement of air traffic flow management ground delay program using machine-learning and mixed integer linear programming-based algorithm, **International Journal on Emerging Technologies**, Volume 11, Year 2020, Pages 1071-1081.

23. Gopinath Palanisamy, Palanisamy Ponnusamy, **Varun P. Gopi**, "An improved luminosity and contrast enhancement framework for feature preservation in colour fundus images," **Springer Journal of Signal, Image and Video Processing**, vol. 13, pp 719–726, June 2019.

24. Soumya R, V. Sureh Babu, **Varun P. Gopi**, Magnitude Comparator Realization using Threshold Logic, International Journal of Recent Technology and Engineering, Volume-8 Issue-3, September 2019.

25. Anju Thomas, **Varun P. Gopi**., "Accurate Heart Rate Monitoring Method During Physical Exercise from Photoplethysmography Signal," **IEEE Sensors Journal**, vol. 19, pp. 2298 – 2304, 2019.

26. Beejesh A. G., **Varun P. Gopi**, Jude Hemanth, Brain MR Kurtosis Imaging Study: Contrasting Gray and White Matter, **Elsevier Journal of Cognitive Systems Research**, Vo. 55, pp. 135-145, 2019

27. Jemshi K. M., **Varun P. Gopi**, Issac Niwas S., "Development of an Efficient Algorithm for the Detection of Macular Edema from Optical Coherence Tomography Images," **Springer Journal of Computer Assisted Radiology and Surgery**, pp. 1-9, 2018.

28. Kausu T. R, **Varun P. Gopi**, Khan A. Wahid, Wangchuk Doma, S. Issac Niwas, "Combination of Clinical and Multiresolution Features for Glaucoma detection and its classification using Fundus Images," **Elsevier Journal of Biocybernetics and Biomedical engineering**, vol. 38, pp. 329-341, 2018.

29. Harikrishnan P M, Varun P Gopi, IOT based Road Pothole and Hump Identification using Ultrasound Waves, Journal of Computer Engineering, PP 13-18, 2017.

30. **Varun P. Gopi**, Anjali M. S., Issac Niwas S., "PCA Based Localization Approach for Segmentation of Optic Disc," **Springer Journal of Computer Assisted Radiology and Surgery**, 12(12), pp. 2195-2204, 2017.

31. Harikrishnan P. M., **Varun P. Gopi**., "Vehicle Vibration Signal Processing for Road Surface Monitoring," IEEE-**Sensor Journal**, vol.17, issue 16, pp. 5192-5197, 2017.

32. Reshma P.G., **Varun P. Gopi**, V. Suresh Babu, Khan A. Wahid., "Analog CMOS implementation of FFT using Cascode current mirror", **Elsevier Microelectronics Journal**, vol. 60, pp. 30-37, February 2017.

33. Seyed Ali Melli, Khan A. Wahid, Paul Babyn, David M.L. Cooper and **Varun P. Gopi**., "A sparsity-based iterative algorithm for reconstruction of Micro-CT images

from highly undersampled projection datasets obtained with a synchrotron X-ray source", **Review of Scientific Instruments**, 87,123701, 2016.

34. **Varun P. Gopi**, P. Palanisamy, Khan A. Wahid, Paul Babyn, David Cooper., "Iterative Computed Tomography Reconstruction from Sparse-View Data", **Journal of Medical Imaging Health Informatics**, vol. 6, pp.1−13, 2016.

35. **Varun P. Gopi**, V. Suresh Babu, Haseena P. S., M. R. Baiju., "A Floating Gate MOSFET Based Novel Programmable Current Reference**", International Journal of Electrical, Robotics, Electronics and Communications Engineering**, vol. 8, no. 6, 2014.

36. **Varun P. Gopi**, Dilna C., V. Suresh Babu., "Image Resolution Enhancement Using Undecimated Double Density Wavelet Transform", **Signal Processing: An International Journal (SPIJ)**, vol. 8, issue. -4, 2014.

37. **Varun P. Gopi**, P. Palanisamy, Khan A. Wahid, Paul Babyn., "Multiple regularization based MRI reconstruction", **Elsevier Signal Processing**, vol. 103, pp. 103-113, 2014.

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