

National Institute of Technology, Tiruchirappalli:  
Performa for CV of Dr.P.PALANISAMY

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**Curriculum Vitae**



1. Name : Dr.P PALANISAMY
2. Designation : PROFESSOR
3. Office Address: : Department of ECE, NIT, Trichy-620015
4. Telephone (Direct) : 0431-2503312
5. Email (Primary) : palan@nitt.edu
6. Field(s) of Specialization: : Signal and Image Processing

7. Employment Profile

<b>Job Title</b>	<b>Employer</b>	<b>From</b>	<b>To</b>
Professor	NIT Trichy	12.03.2018	Till Date
Associate Professor	NIT Trichy	24.04.2011	11.03.2018
Assistant Professor	NIT Trichy	01.01.2006	23.04.2011
Senior Lecturer	NIT Trichy	30.07.2003	31.12.2005
Lecturer	REC, Trichy	30.07.1998	29.07.2003
Junior Scientific Officer	REC, Trichy	09.03.1997	29.07.1998
Research Assistant	REC, Trichy	20.12.1995	08.03.1997

8. Academic Qualifications (From Highest Degree to High School):

<b>Examination/ Degree</b>	<b>Board / University</b>	<b>Division/ Grade</b>	<b>Subjects</b>	<b>Remarks</b>
Ph.D.	NIT, Trichy	-	Array Signal Processing	<b>Awarded Gold Medal for Best Thesis</b>
M.E.	NIT, Trichy	I Class with Distinction	Communication Systems	<b>First Rank Holder</b>
B.E.	Bharathiar University	I Class	Electronics and Communication	<b>University Rank Holder</b>
HSC	State Board, TN	I Class	General	-
SSLC	State Board, TN	I Class	General	-

**National Institute of Technology, Tiruchirappalli:**  
**Performa for CV of Dr.P.PALANISAMY**

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9. Academic/Administrative Responsibilities within the University

<b>Position</b>	<b>Faculty/Department/Centre/Institution</b>	<b>From</b>	<b>To</b>
Training Officer	Training and Placement Department	01.11.2010	Till Date
Convener	Campus Communication Service	30.06.2020	Till Date
Member	Industry Institute Interaction Cell	17.07.2019	30.07.2021
Associate Convener	Campus Communication Service	12.07.2016	29.06.2020
Coordinator	CCMT-2010 & CCMT-2011	2010	2011
Member	CCMT	2012	2018
Technical Committee Member	CCMT-2019	2019	2019
Warden	Hostels and Messes	01.01.2007	15.06.2009
Library Incharge	Department Library, ECE Department	03.01.2007	Till Date
Member	Department Project Evaluation Committee	2004	2012
Member	Board of Studies	2003	Till Date
Member	MIS Implementation Team	Feb-2014	2017

10. Academic/Administrative Responsibilities outside the University

<b>Position</b>	<b>Institution</b>	<b>From</b>	<b>To</b>
Member, Academic Council	Govt. College of Engineering, Salem	2019	Till Date
Member, Governing Council	KSR College of Technology, Tiruchengode	2019	Till Date
Member, Academic Council	Kongu Engineering College, Perundurai	2020	Till Date
Member, Academic Council	Kongunadu Engineering College, Thottiam, Trichy	2019	Till Date
Member, BoS	JNTU University, Anantapur.	2019	2021
Member, BoS	Krishna University, AP	2020	Till Date
Member, BoS	Kalasalingam Academy of Research and Education	2021	Till Date
Member, BoS	Karunya University, Coimbatore	2018	Till Date
Member, BoS	Sri Ramakrishna Engineering College, Coimbatore	2018	Till Date
Member, BoS	Sri Shakthi Institute of Engineering & Technology, Coimbatore	2019	Till Date

**National Institute of Technology, Tiruchirappalli:  
Performa for CV of Dr.P.PALANISAMY**

Member, BoS	Erode Senguntar Engineering College, Perundurai	2019	Till Date
Member, BoS	Dhanalakshmi Srinivasan Engineering College, Perambalur	2020	Till Date
Member, BoS	Kumaraguru College of Technology, Coimbatore	2017	2020
Member, BoS	Nandha Engineering College, Perundurai	2017	Till Date
Member, BoS	Vellalar College of Engineering and Technology, Thindal, Erode.	2017	2019
Member, BoS	Periyar Maniammai University, Vallam	2015	2017
Member, BoS	KSR College of Engineering	2013	2015
Member, BoS	Vivekanandha College of Engineering for Women	2015	2017
Member, BoS	Madanapalle Institute of Technology & Science	2016	2018

11. Awards, Associateships etc.

<b>Year of Award</b>	<b>Name of the Award</b>	<b>Awarding Organization</b>
2009	Best Ph.D. Thesis Award	NIT Trichy
2012	Best Paper Award in International Conference on Information Processing	Bangalore University
2008	Best Paper Award in International Conference on Cognition and Recognition	PES College of Engineering, Mysore

12. Details of Academic Work

**(i) Curriculum Development**

1. Technical Committee Member for CAR 2015 (Conclave on Academic Reforms)
2. Introduced New Elective Courses (for both UG and PG)
3. Established New Signal and Image Processing Laboratory
4. Modernizing and maintaining of the PG Project and Research Laboratory
5. Procured Software and Systems for Laboratory
6. Introduced Software based Simulation for Hardware based experiments for “Signal Processing Laboratory”

**(ii) Courses taught at Postgraduate and Undergraduate levels**  
**Post Graduate Level**

1. Advanced Digital Signal Processing (PG)
2. Advanced Digital Communication (PG)
3. Detection and Estimation (PG)
4. Spectral Analysis of Signals (PG)
5. Array Signal Processing (PG)
6. Digital Signal Processing (PG)

National Institute of Technology, Tiruchirappalli:  
Performa for CV of Dr.P.PALANISAMY

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**Undergraduate Level**

1. Signals and Systems (UG)
2. Digital Signal Processing (UG)
3. Statistical Theory of Communication (UG)
4. Advanced Digital Signal Processing (UG)
5. Statistical Signal Processing (UG)
6. Digital Communication (UG)
7. Satellite Communication (UG)
8. Error Control Coding (UG)
9. Control Systems (UG)
10. Electronics Devices and Circuits Lab (UG)
11. Digital Electronics Lab (UG)
12. Digital Signal Processing Lab (YG)

**(iii) Projects guided at Postgraduate level**

**Please see Annexure – I (page No.16)**

**Other contribution(s)**

1. Department Project Evaluation Committee Member for M.Tech (Communication Systems) 2020 onwards
2. Department Ph.D. Admission Committee Chairperson for 2020
3. Staff Advisor for 2017 batch ECE students
4. PAC for 1<sup>st</sup> and 2<sup>nd</sup> Semester M.Tech(VLSI System)
5. PAC for 4<sup>th</sup> Semester M.Tech (VLSI System)
6. PAC for 6<sup>th</sup> and 8<sup>th</sup> Semester UG
7. Staff Advisor/Coordinator for Ist Semester M.Tech(Communication Systems) during 2007-08
8. Staff Advisor/Coordinator for 2<sup>nd</sup> Semester M.Tech(Communication Systems) from 2001 to 2008
9. Staff Advisor/Coordinator for 3<sup>rd</sup> Semester M.Tech (Communication Systems) from 2001 to 2010
10. Staff Advisor/Coordinator for 4<sup>th</sup> Semester M.Tech (Communication Systems) since 2003 to 2009
11. Staff Advisor/Coordinator for 3<sup>rd</sup> and 7<sup>th</sup> Semester
12. Project Committee member for M.Tech(Communication Systems) 2004 to 2015
13. Project Committee member for UG since 2003 to 2015

**National Institute of Technology, Tiruchirappalli:**  
**Performa for CV of Dr.P.PALANISAMY**

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14. PG admission coordinator and committee member since 1999 in the department level
15. Department Library incharge since January 2007
16. Doctoral Committee Member
17. Purchase committee member

**13. Details of Major R&D Projects**

- (i) 4D Trajectory based Air Traffic Flow Management System using System Wide Information Management (4DADFMS) (2020-2021)
- (ii) Development of Traffic Monitoring Analytics and Under Vehicle Scanning Inspection System-Funded By VANDI Technologies PTE LTD, Singapore (2018-2021)
- (iii) Research project titled “Sensor-level Adaptive Noise Cancellation for Active Sonar Using Estimated Reference Noise” carried out and submitted the report to DOE, Govt. of India in November 1998. (Report:DOE/NRC/TDP-141/TR-2, November 1998).
- (iv) Research project titled “Signal-Subspace Algorithm for DOA Estimation using a Two-Dimension Array of Sensors” and submitted the report to DOE , Govt. of India in February 1999. (Report : DOE/NRC/TDP-141/TR-3 , February 1999) .

**14. Number of PhDs guided**

<b>Name of the PhD Scholar</b>	<b>Title of PhD Thesis</b>	<b>Role (Supervisor/ Co-Supervisor)</b>	<b>Year of Award</b>
Issac Niwas	Complex Wavelet based Multiresolution Texture Analysis of Microscopic Images for Breast Cancer Diagnosis	Supervisor	2013
Varun P Gopi	Reconstruction of Magnetic Resonance and Computed Tomography Images using Compressed Sensing Techniques	Supervisor	2014
E.S. Gopi	Investigations on Linear Discriminant Analysis	Supervisor	2015
P. V. Sudeep	Statistical Methods for Noise Reduction in Magnetic Resonance Imaging, Medical Ultrasound and Optical Coherence Tomography Images	Supervisor	2016
S.Deivalakshmi	Investigation on Salt-and-Pepper and Speckle Noise Removal using Multiresolution based Image Denoising and Dynamic Stochastic Resonance Based Enhancement Techniques	Supervisor	2017

**National Institute of Technology, Tiruchirappalli:  
Performa for CV of Dr.P.PALANISAMY**

C. Srinivasarao	Angle estimation of coherent targets in MIMO radars using EM vector sensors	Supervisor	2018
S. Karthick	Joint DoD and DoA Estimation of Coherent Targets in Bistatic Mimo Radar with Electromagnetic Vector Sensors	Supervisor	2020
K. Gowri	Two-Dimensional Direction of Arrival Estimation of Coherent and Noncircular Signals using sparse and Parallel Arrays	Supervisor	2020
Phate Vikas Ravindra	Implementation of Computer Vision based system for mass modelling of sweet lime fruits	Co-Supervisor	2021
S. Deepudev	Performance Improvement of Air Traffic Flow Management and 4D - Trajectory Prediction using Machine Learning	Supervisor	2021
P. Gopinath	Methods for enhanced visualization of retinal features and fovea detection in color fundus images	Supervisor	2021
Anju Thomas	Development of Methodologies to Detect Age-Related Macular Degeneration from Optical Coherence Tomographic Images	Supervisor	2022
Hari Krishnan P.M.	Development of Real-Time and Accurate Computer Vision Algorithms for Intelligent Traffic Monitoring	Co-Supervisor	2022
Hanumantharao Bitra	Reduction of PAPR in OTFS Signal using Companding Transforms	Supervisor	2023
Bhookya Nageswararao Naik	Chilli Leaf Disease Classification using Deep Learning Techniques	Co-Supervisor	2024
Tirumala Vasu Galithoti	Multi Focus, Multi Exposure and Multi Sensor Image Fusion using Edge Preserving Filters	Supervisor	2024

**National Institute of Technology, Tiruchirappalli:**  
**Performa for CV of Dr.P.PALANISAMY**

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

Date (s)	Title of Activity	Level of Event (International/ National/ Local)	Role (Participant/ Speaker/ Chairperson, Paper presenter, Any other)	Event Organized by	Venue
05.11.2017 to 08.11.2017	IEEE Conference TENCON 2017	International	Chairperson and Paper Presenter	Malaysia University	Penang, Malaysia
22.11.2016 to 25.11.2016	IEEE Conference TENCON 2016	International	Chairperson and Paper Presenter	NTU, Singapore	Singapore
30.9.2013 to 4.10.2013	Signals and Systems	National	Participant	IIT, Khragpur	IIT, Kharagpur
10.8.2012 to 12.8.2012	Conference on Information Processing	International	Paper Presenter	Bangalore University	Bangalore
19.02.2012 to 21.02.2012	Information, Communication and Signal Processing	International	Chairperson and Paper Presenter	WASET	Kuala Lumpur, Malaysia
08.01.2010 to 09.01.2010	Recent Advancements in Electrical Sciences	International	Chairperson and Paper Presenter	KSR College of Engineering	Tirucheng ode, Tamil Nadu
06.07.2009 to 10.07.2009	Signals, Systems and Signal Processing	International	Participant	IUCEE	Mysore
19.11.2008 to 21.11.2008	IEEE Conference TENCON 2008	International	Paper Presenter	University of Hyderabad	Hyderabad
16.06.2008 to 28.06.2008	Fuzzy Logic: Theory and Engineering Practice	National	Participant	NIT, Trichy	NIT, Trichy
14.03.2008 to 15.03.2008	Data Analytics and Data Mining	National	Participant	NIT, Trichy	NIT, Trichy
25.02.2008 to 29.02.2008	Advanced Tools and Techniques for Research in Engineering Problems	National	Participant	NIT, Trichy	NIT, Trichy

**National Institute of Technology, Tiruchirappalli:  
Performa for CV of Dr.P.PALANISAMY**

14.03.2008 to 15.03.2008	Data Analytics and Data Mining	National	Participant	NIT, Trichy	NIT, Trichy
25.02.2008 to 29.02.2008	Advanced Tools and Techniques for Research in Engineering Problems	National	Participant	NIT, Trichy	NIT, Trichy
18.02.2008 to 22.02.2008	Architecture, Algorithms and Applications for Digital Signal Processing	National	Participant	IISc, Bangalore	IISc, Bangalore
28.01.2008 to 01.02.2008	Electrical Machines and Power Electronics in Renewab le Energy Systems	National	Participant	NIT, Trichy	NIT, Trichy
04.01.2008 to 06.01.2008	Signal Processing, Communications and Networking	International	Paper Presenter	Anna University	Chennai
17.09.2007 to 18.09.2007	Computational Fluid Dynamics	National	Participant	NIT, Trichy	NIT, Trichy
22.02.2007 to 24.02.2007	Signal Processing, Communications and Networking	International	Paper Presenter	Anna University	Chennai
04.02.2007 to 06.02.2007	Nanomaterial and its Applications	International	Participant	NIT, Trichy	NIT, Trichy
10.01.2007 to 13.01.2007	Speech and Audio Processing	International	Participant	IISc, Bangalore	IISc, Bangalore
04.01.2007 to 06.01.2007	Trends in Industrial Measurements and Automation (TIMA)	International	Participant	NIT, Trichy	NIT, Trichy
29.12.2006 to 31.12.2006	VLSI Implementation of Digital Radio Transceivers	National	Participant	NIT, Trichy	NIT, Trichy



**National Institute of Technology, Tiruchirappalli:  
Performa for CV of Dr.P.PALANISAMY**

07.12.2006 to 09.12.2006	Signal and Image Processing	International	Paper Presenter	BVB Engineering College	Hubli
08.11.2006	Virtual Instrumentation in Engineering Education	National	Participant	National Instruments, Bangalore	Bangalore
28.11.2003 to 13.12.2003	DSP Architecture, Programming and Applications	National	Speaker	NIT, Trichy	NIT, Trichy
30.05.2005 to 15.06.2005	DSP Architecture, Programming and Applications	National	Speaker	NIT, Trichy	NIT, Trichy
20.10.2002 to 25.10.2002	IEEE Information Theory Workshop 2002	International	Participant	IISc, Bangalore	IISc, Bangalore
11.12.2001 to 21.12.2001	Applications of DSP in Wireless Communication & Image Processing	National	Participant	IIT, Chennai	IIT, Chennai
6.5.1999 to 8.5.1999	Wireless Communication' 99	National	Participant	IISc, Bangalore	IISc, Bangalore
24.11.1998 to 4.12.1998	Multimedia Communication	National	Participant	IIT, Chennai	IIT, Chennai

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

<b>Title of Activity</b>	<b>Level of Event (International/ National/ Local)</b>	<b>Date (s)</b>	<b>Role</b>	<b>Venue</b>
Two Week ISTE workshop on Signals and Systems	National	02.01.2014 to 12.01.2014	Coordinator	NIT, Trichy
Economics of Information and Internet Economics- Impact of Communication Technology of Economics	National	08.02.105 to 10.01.2015	Coordinator	NIT, Trichy
Conclave on Academic Reforms 2015	National	28.04.2015 to 29.04.2015	Technical Committee Member	NIT, Trichy

**National Institute of Technology, Tiruchirappalli:  
Performa for CV of Dr.P.PALANISAMY**

17. Invited Talks delivered

Topic	Date	Inviting Organization
Linear Algebra and Discrete-Time Systems	21.1.2013 to 2.3.2013	DRDL Hyderabad

18. Membership of Learned Societies

Type of Membership (Ordinary Member/ Honorary Member / Life Member )	Organization	Membership No. with date
Member	IEEE	90714321 (2014)
Fellow	FIE	F-122951-2 (2017)
Life Member	IETE	M189095 (2007)
Life Member	ISTE	LM40665 (2004)
Member	ACEEE	7000051 (09, February 2009)
Member	IAENG	65391 (April 2010)

19. Academic Foreign Visits

Country	Duration of Visit	Programme
Singapore	12.11.2007 to 11.12.2007	TEQIP training
Malaysia	19.02.2012 to 21.02.2012	International Conference
Singapore	20.11.2016 to 26.11.2016	IEEE TENCON 2016 International Conference

National Institute of Technology, Tiruchirappalli:  
Performa for CV of Dr.P.PALANISAMY

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## 20. Publications

### (A) Refereed Research Journals:

1. Naresh. V., Y. G., N. N. B., Malmathanraj. R. and P. Palanisamy., "Empirical Analysis of Squeeze and Excitation-Based Densely Connected CNN for Chili Leaf Disease Identification," in **IEEE Transactions on Artificial Intelligence**, vol. 5, no. 4, pp. 1681-1692, April 2024, doi: 10.1109/TAI.2024.3364126.
2. Bhookya, N.N., Ramanathan, M. & Ponnusamy, Palanisamy, "Leaf Disease Classification of Various Crops Using Deep Learning Based DBESeriesNet Model", *SN COMPUT. SCI.* **5**, 406 (2024). Springer, <https://doi.org/10.1007/s42979-024-02746-z>
3. Anish Sathyan, P Palanisamy, "Plant Nutrient Deficiency Detection from Leaf Images using AI/ML - Driven Enhanced Channel Boosted Convolutional Neural Network", *Journal of Annals of Forest Research*, Vol 67(1), 2024, pp.135-151, Forest Research and Management Institute ICAS (ISSN: 18448135, 20652445).
4. Vedhamuru, N., Malmathanraj, R. & Palanisamy, P., "Features of pyramid dilation rate with residual connected convolution neural network for pest classification", *SIVIP* **18**, 715–722 (2024). <https://doi.org/10.1007/s11760-023-02712-x>
5. Vasu, G.T., Palanisamy, P., "**Visible and Infrared Image Fusion Using Distributed Anisotropic Guided Filter**", *Sens Imaging* **24**, 40 (2023). <https://doi.org/10.1007/s11220-023-00447-0> (Springer)
6. Vedhamuru, N., Ramanathan, M., Ponnusamy, P. *et al.* Optimized Residual Parallel Separable Convolution Layers for Pest Classification. *SN COMPUT. SCI.* **4**, 818 (2023). <https://doi.org/10.1007/s42979-023-02277-z>
7. Vasu, G.T., Palanisamy, P., "**CT and MRI multi-modal medical image fusion using weight-optimized anisotropic diffusion filtering**", *Springer Journal of Soft Computing*, Vol. **27**, pp.9105–9117 (2023). <https://doi.org/10.1007/s00500-023-08419-y>
8. Vasu, G.T., Palanisamy, P., "**Gradient-based multi-focus image fusion using foreground and background pattern recognition with weighted anisotropic diffusion filter**", *Springer Journal of Signal, Image and Video Processing*, Vol. **17**, pp.2531–2543 (2023). <https://doi.org/10.1007/s11760-022-02470-2> .
9. Bhookya Nageswararao Naik, Malmathanraj Ramanathan, Palanisamy Ponnusamy, "Refined single-stage object detection deep-learning technique for chilli leaf disease detection," *J. Electron. Imag.* **32**(3) 033039 (30 June 2023) <https://doi.org/10.1117/1.JEI.32.3.033039>
10. Hanumantharao Bitra, Srinivasarao Chintagunta, Ponnusamy Palanisamy, "**Nonlinear companding transform for PAPR reduction of OTFS signals**", *Journal of Optical Communications*, Dec-2022, <https://doi.org/10.1515/joc-2022-0269>
11. Gurubelli, Y., Ramanathan, M. and P.Palanisamy, "**Colour texture descriptor for CBIR of diseased tomato leaf images using modified local zigzag pattern**" *Springer Journal of Multimedia Tools and Applications* , Dec-2022, pp.1-9. <https://doi.org/10.1007/s11042-022-14292-y>.
12. Vasu, G.T., Palanisamy Ponnusamy, "[Multi-focus image fusion using anisotropic diffusion filter](https://doi.org/10.1007/s00500-022-07562-2)", *Springer Journal of Soft Computing*, Vol. **26** (24) P.14029-14040 (2022). DOI:<https://doi.org/10.1007/s00500-022-07562-2>

National Institute of Technology, Tiruchirappalli:  
Performa for CV of Dr.P.PALANISAMY

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13. Yogeswararao, G., Malmathanraj, R. & Palanisamy, P. Fractional weighted nuclear norm based two dimensional linear discriminant features for cucumber leaf disease recognition. *Multimed Tools Appl* **81**, 38735–38755 (2022). <https://doi.org/10.1007/s11042-022-13013-9>
14. Hanumantharao Bitra, **Palanisamy Ponnusamy**, "[Large Scale MIMO Analysis Using Enhanced LAMA](#)", Springer Journal of Wireless Personal Communications Vol.126, p.2469–2482 (2022). DOI:<https://doi.org/10.1007/s11277-022-09762-3>
15. Hanumantharao Bitra, **Palanisamy Ponnusamy**, Srinivasarao Chintagunta, "[Reduction of PAPR in OTFS using rooting companding techniques](#)", Taylor & Francis-International Journal of Electronics Letters, Sep.-2022, p.1-12. DOI: [10.1080/21681724.2022.2118839](https://doi.org/10.1080/21681724.2022.2118839)
16. Palanisamy Gopinath, **Palanisamy Ponnusamy**, Gopi, V.P., "[An adaptive enhancement and fovea detection technique for color fundus image analysis](#)", Springer Journal of Signal, Image and Video Processing (SIVi), July 2022, p.1-8. DOI: <https://doi.org/10.1007/s11760-022-02295-z>
17. Hanumantharao Bitra, **Palanisamy Ponnusamy**, "[Analytic Form of Expression for a Capacity in an Adaptive Spatial Modulation Systems](#)", Journal of Information Science & Engineering, Vol.38, Issue 4, July 2022, p821-832. DOI: [10.6688/JISE.202207\\_38\(4\).0008](https://doi.org/10.6688/JISE.202207_38(4).0008)
18. Hanumantharao Bitra, **Palanisamy Ponnusamy**, Srinivasarao Chintagunta, Salai Pragadeshwaran, "[Nonlinear companding transforms for reducing the PAPR of OTFS signal](#)", Elsevier Journal of Physical Communication, Vol.53, August 2022, 101729. <https://doi.org/10.1016/j.phycom.2022.101729>
19. B.Nageswararao Naik, R Malmathanraj, **P Palanisamy**, "[Detection and classification of chilli leaf disease using a squeeze-and-excitation-based CNN model](#)", Elsevier Journal of Ecological Informatics, Vol.69, July 2022, 101663. <https://doi.org/10.1016/j.ecoinf.2022.101663>
20. Mounika, B.R., **Palanisamy, P.**, Sekhar, H.H. *et al.*, "Content based video retrieval using dynamic textures", *Multimedia Tools Applications* (2022). <https://doi.org/10.1007/s11042-022-13086-6>
21. Arun, P.S., Varun P Gopi, **Palanisamy.P**, "Despeckling of OCT images using DT-CWT based fusion technique", *Optik-International Journal for Light Electron Optics*, 263(2022) 169332, <https://doi.org/10.1016/j.jileo.2022.169332>
22. Hanumantharao Bitra, **Palanisamy Ponnusamy**, Srinivasarao Chintagunta, "[Reduction of PAPR in OTFS using normalized  \$\mu\$ -law and A-law companding transform](#)", *Journal of Internet Technology Letter*, Vol.5, No.3 (2022). <https://doi.org/10.1002/itl2.344>
23. Yogeswararao, G., Malmathanraj, R. & **Palanisamy, P.** Fractional weighted nuclear norm based two dimensional linear discriminant features for cucumber leaf disease recognition. *Multimedia Tools Applications* (2022). <https://doi.org/10.1007/s11042-022-13013-9>
24. Yogeswararao, G., Naresh, V., Malmathanraj, R. and **P.Palanisamy**, "An efficient densely connected convolutional neural network for identification of plant diseases" *Multimedia Tools Applications* (2022), <https://doi.org/10.1007/s11042-022-13053-1>
25. P Sunija, Adithya K Krishna, Varun P Gopi, and **P.Palanisamy**, "Multi-Scale Directed Acyclic Graph-CNN for Automated Classification of Diabetic Retinopathy from OCT Images", *Biomedical Engineering: Applications, Basis and Communications* (2022) <https://doi.org/10.4015/S1016237222500259>
26. Nisha.J.S, Varun P Gopi and **P.Palanisamy**, "Colorectal Polyp Detection Using Image Enhancement

National Institute of Technology, Tiruchirappalli:  
Performa for CV of Dr.P.PALANISAMY

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- And Scaled YOLOV4 Algorithm”, Biomedical Engineering: Applications, Basis and Communications (2022) <https://doi.org/10.4015/S1016237222500260>.
27. Sahadevan, D., M, H.P., **P, Palanisamy**. *et al.*, “Ground-based 4d trajectory prediction using bi-directional LSTM networks”, *Applied Intelligence* (2022). <https://doi.org/10.1007/s10489-022-03309-6>
  28. Nisha.J.S, Varun P Gopi and **P.Palanisamy**, “ Classification of Informative Frames in Colonoscopy Video Based on Image Enhancement and PHOD Feature Extraction”, Biomedical Engineering: Applications, Basis and Communications (2022) <https://doi.org/10.4015/S1016237222500156>
  29. Nisha.J.S, Varun P Gopi and **P.Palanisamy**, “ Automated colorectal polyp detection based on image enhancement and dual-path CNN architecture”, Biomedical Signal Processing and Control, Vol.73 (2022). <https://doi.org/10.1016/j.bspc.2021.103465>.
  30. Sunija A.P., Varun P Gopi and **P.Palanisamy**, " Redundancy reduced depthwise separable convolution for glaucoma classification using OCT images”, **Biomedical Signal Processing and Control, Vol.71(2022)**. <https://doi.org/10.1016/j.bspc.2021.103192>.
  31. Anju Thomas, Harikrishnan, P.M., Rajiv Ramachandarn, Srikanth Ramachandran, Rigved Manoj, **P.Palanisamy** and Varun P Gopi , “**A novel multiscale and multipath convolutional neural network based age-related macular degeneration detection using OCT images**”, Computer Methods and Programs in Biomedicine, , Vol.209Yas, 2021. <https://doi.org/10.1016/j.cmpb.2021.106294>
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(C) Books Chapters

Author(s)	Title	Name of Publishers	Year of Publication	ISSN/ISBN Number
<u>G. Yogeswararao,</u> <u>V.Naresh,</u>	Parallel Dense Skip-Connected CNN Approach for Brain Tumor	CRC Press	2023	9781003277002 (E-ISBN)



National Institute of Technology, Tiruchirappalli:  
Performa for CV of Dr.P.PALANISAMY

R. Malmathanraj, P.Palanisamy, Karthik Balasubramanian	Classification			
G. Yogeswararao, R. Malmathanraj, P. Palanisamy	Fuzzy Weighted Nuclear Norm Based Two-Dimensional Linear Discriminant Features for Fruit Grade Classification	CRC Press	2022	9781003244714 9E-ISBN)
Swatthi Vijay Sanker, Nivetha B Ramya Sri Bilakanti, Anju Thomas, Varun P Gopi, P Palanisamy	Emotion-recognition-based music therapy system using electroencephalography signals	Academic Press	2022	<a href="https://doi.org/10.1016/B978-0-323-90585-5.00009-6">https://doi.org/10.1016/B978-0-323-90585-5.00009-6</a>
S. Deepudev P. Palanisamy Varun P. Gopi Manjunath K. Nelli	A Machine Learning Based Approach for Prediction of Actual Landing Time of Scheduled Flights Source: <b>Advances in Intelligent Systems and Computing</b>	Springer	2020	978-981-15-7233-3
K.Gowri and P.Palanisamy	Computationally Efficient Direction of Arrival Estimation of Coherent Signals for Three Parallel Uniform Linear Arrays <b>Source Title : Energy Systems, Drives and Automations</b>	Springer	2020	978-981-15-5088-1
Sudeep.P.V. P.Palanisamy Jeny Rajan	Advances in Ultrasound Despeckling: An Overview Source Title: Advanced Classification Techniques for Healthcare Analysis	IGI Global	2019	9781522577966
E.S.Gopi P.Palanisamy	Scatter Matrix versus the Proposed Distance Matrix on Linear Discriminant Analysis for Image Pattern Recognition <b>Source: Advanced Computing and Informatics</b>	Springer	2014	978-3-319-07352-1
Varun P. Gopi P. Palanisamy S. Issac Niwas	Capsule Endoscopic Colour Image Denoising Using Complex Wavelet Transform <b>Source: Wireless Networks and Computational Intelligence</b>	Springer	2012	978-3-642-31685-2
P.M.Swetha P.Palanisamy	2-D DOA Estimation of Coherent Wideband Signals Using L-Shaped Sensor Array <b>Source: Advances in Computer Science and Information Technology</b>	Springer	2011	978-3-642-17856-6

ANNEXURE – I

Projects Guided at the Post Graduate Level

# National Institute of Technology, Tiruchirappalli:

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1. Direction of arrival estimation using real-valued compressed MUSIC for arbitrary array geometries
2. Image denoising using shearlet transform and modified total variation
3. MRI image reconstruction using contourlet transform and modified total variation
4. Spatial diversity in RADARs-models and detection performance
5. DOA estimation of temporally and spatially correlated narrowband non-circular sources in spatially correlated white noise
6. A subspace-based code method for 2-D direction estimation with L-shaped array
7. Two-dimensional DOA estimation of coherent signals using electromagnetic vector sensor array
8. Estimation algorithms for sensors gain and phase errors based on different data models
9. A two microphone-based approach for source localization of multiple speech sources
10. Frequency estimation of sampled sinusoidal signals without iteration
11. Document image segmentation using Gabor wavelets and clustering algorithms
12. Regularization based on CT image reconstruction using algebraic techniques
13. Direction of Arrival estimation of 2-D array without knowing number of sources
14. Estimation of DOD, 2-D DOA and Polarizations for bistatic MIMO RADAR using electromagnetic vector sensors
15. Localization of stationary and quasi stationary targets using bistatic MIMO array
16. Multi-target localization in bistatic MIMO RADAR
17. Signal design for transmit beam pattern synthesis for wideband MIMO systems
18. Efficient 2-D DOA estimation of coherent signals in spatially correlated noise using electromagnetic vector sensors
19. An efficient EM algorithm for energy-based multisource localization in wireless sensor networks.
20. Removal of high density salt and pepper noise through modified decision based unsymmetric trimmed median filter
21. Spatial Extrapolation-based blind DOA estimation approach for closely spaced sources
22. DOA estimation of uncorrelated and coherent signals using uniform circular array
23. 2-D DOA estimation of quasi-stationary signals based on Khatri-Rao subspace approach
24. 2-D DOA estimation for uniform spherical array using propagator method
25. DOA estimation of quasi-stationary signals with less sensors than sources.
26. Denoising and segmentation techniques for cervical cancer diagnosis
27. An algorithm for joint range-DOA-frequency estimation of near-field sources.
28. 2-D DOA estimation of coherent wideband signals using pressure and acoustic vector sensor arrays.
29. Error Localization of Complex DFT codes using propagator algorithm
30. Color Image Compression using fast and fixed point ICA and Vector quantization

National Institute of Technology, Tiruchirappalli:  
Performa for CV of Dr.P.PALANISAMY

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31. DOA estimation based on fourth-order cumulants using propagator method
32. DOA estimation of wideband acoustic sources by a vector sensor array
33. DOA estimation of acoustic sources by a vector sensor array using higher order statistics
34. Space time block coding with hybrid modulations using ICA
35. A New DOA estimation algorithm for wideband signals in the presence of unknown noise
36. Performance analysis of raptor codes in OFDM systems
37. A New high resolution signal subspace method for DOA estimation using propagator method for wireless communication
38. Performance analysis of Luby transform codes in OFDM systems
39. A New two dimensional DOA estimation Algorithm based on CAM
40. Performance evaluation of low density parity check coded OFDM systems
41. Tracking of parameters using variable step-size SWLMS algorithm
42. Channel estimation and tracking algorithms for OFDM systems
43. MMSE-Decision feedback equalizer design for OFDM systems with insufficient cyclic prefix
44. An  $H^\infty$  approach to robust channel estimation for OFDM wireless communication systems
45. Wavelet based texture classification with evolution clustering networks
46. Spread spectrum image teaganography using Reed Solomon and turbo codes
47. Joint Channel and Carrier frequency offset estimation for OFDM systems
48. Implementation of noise reduction in hearing aids using DSP SHARC processors
49. Face recognition using PCA & Support vector machine
50. A Fast Intra-mode selection algorithm or H-264 encoders
51. Inter Carrier Interference Suppression in OFDM Systems
52. Implementation of MIMO OFDM-based wireless LAN system

National Institute of Technology, Tiruchirappalli:  
Performa for CV of Dr.P.PALANISAMY

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53. Implementation of MIMO OFDM-based wireless LAN system
54. Improving VOIP call capacity in mesh networks packet aggregation mechanism
55. Speaker Verification using Hidden Markov Model
56. Temporal Video Segmentation
57. Fast full search motion estimation based on multilevel successive elimination algorithm
58. Two-Dimensional DOA estimation of Multiples Sources with a rectangular array of sensors using signal subspace algorithm.

National Institute of Technology, Tiruchirappalli:  
Performa for CV of Dr.P.PALANISAMY

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**BRIEF PROFILE**

Dr.P.PALANISAMY graduated B.E. in Electronics and Communication Engineering from Bharathiar University, Coimbatore and M.E. in (Communication systems) from National Institute of Technology (then Regional Engineering College), Tiruchirappalli and Ph.D from National Institute of Technology in the area of Signal Processing. He secured University Rank in B.E., First Rank in M.E. and awarded Gold Medal for best thesis in Ph.D.

He worked as a Research Assistant from December 1995 to March 1997 and then he worked as a Scientific Officer in the Department of Electronics, Govt. of India, sponsored research project at Regional Engineering College, Tiruchirappalli from March 1997 to July 1998. Since July, 1998, he has been with National Institute of Technology, Tiruchirappalli as a regular Faculty in the Department of Electronics and Communication Engineering. Currently he is a Professor in the Department of Electronics and Communication Engineering, National Institute of Technology, Tiruchirappalli-620015. In addition, he had served as Associate Convener Campus Communication Service for 4 years and currently he is a Convener Campus Communication Service, training officer in Training & Placement department .

His area of interest includes Statistical Signal Processing, Adaptive Signal Processing, Adaptive Noise Cancellation, Array Signal Processing, Detection and Bearing Estimation, Frequency Estimation, Image Processing, Medical Image Analysis, Data and Image compression, Digital and Wireless communication etc. He handles Signals & Systems, Digital Systems, Control Systems, Probability Theory & Random processes, Digital Signal Processing, Statistical Theory of Communication, Digital Communication, Error Control Coding, Satellite Communication, Advanced Digital Signal Processing, Advanced Digital Communication, Detection and Estimation, Spectral Analysis of Signals etc.

Under his guidance 16 Ph.D. (13-guide, 3-co-guide) and 5 MS (By Research) completed. Currently, he is guiding 7 Research Scholars. He has published 98 papers in reputed International Journals and 81 papers in International Conferences.

He has been reviewer for IEEE Transaction on Signal Processing, IEEE Signal Processing Letter, IET (IEE) Signal Processing, IET radar, Sonar and Navigation, International Journal of Signal Processing (Elsevier), Digital Signal Processing (Elsevier Publication), European Journal of Advances in Signal Processing (Hindawi Publication), International Journal of Electronics (Taylor and Francis Publication) and for IEEE and other National and International conferences. He is the member of IEEE, ISTE, IETE, ACEEE and IAENG.