

FACULTY PROFILE

Dr. T ARUMUGA MARIA DEVI., B.E., M.Tech., Ph.D.
Assistant Professor
Centre for Information Technology and Engineering
<Date of Joining: 01/03/2008>
<Date of Retirement: 30/06/2042>
arumugamariadevi@msuniv.ac.in



Experience	No. of year in Teaching: 20	No. of Years in Research : 12
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Project Details	a. Total No. of Projects: 2 Submitted __	b. Total Project value: to be evaluated < Rs. Twenty Eight Lakhs and Twenty Thousand >
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Project Details for the period between Ay 2018-19 and Ay 2023-24

1.	Submitted on _10/08/2023 Project Proposal _on _Wireless Solar Power Transmission on IOT Monitoring for Micro-irrigation _is to be_funded by Tamil Nadu State Council for Science and Technology_for Rs.3,05,000/-
2.	Submitted (13.03.23) to Chief Minister's Research Grant (CMRG) Project Proposal 2023-2024 on IOT Based Monitoring and Control of a Microgrid for Irrigation with a Wireless Power Transmitting Solar Power for Rs.27,15,000/-

Publication details: No. of Books 5 (Best Five published during the period 2018-24)

1.	<Title of Book: Advances on Machine and Deep Learning Techniques in Modern Applications>Published by SK Research Group of Companies Year 2022 ISBN 978-93-91077-92-1
2.	<Title of Book: Introduction to big data>Published by SK Research Group of Companies Year 2022 ISBN 978-93-95341-11-0
3.	<Title of Book : Introduction to Artificial Neural Networks>Published by SK Research Group of Companies Year 2022 ISBN 978-93-95341-09-7
4.	<Title of Book :

	Temporal Hyperspectral Video Transcoding for Web Browsing >Published by _SK Research Group of Companies_Year__2023_ ISBN _978-81-965283-0-0
5.	<Title of Book Advances on Machine and Deep Learning Techniques in Modern Era>Published by SK Research Group of Companies_Year_2023_ ISBN _978-93-95341-71-4

Publication details:

Journal - International: _71	Journal - National: __5
Book Chapters: _1	Conference Proceedings: _37

Publication Credentials:

Citations : _156	h – Index : _ 10
Cumulative Impact Factor: 134.6261	

Recent/Best Five Articles published during the period 2018 - 24

1.	<Title of Article Voxel-based morphometry of the human brain imaging in improved convolution neural network>Published in <Journal of Multimedia Tools and Applications, ISSN 1380-7501,Year2024 /DOI http://dx.doi.org/10.1007/s11042-024-19222-8 >
2.	<Title of Article Ancient blood cell classification on explication using convolutional neural networks>Published in Springer<Journal of Multimedia Tools and Applications, ISSN 1380-7501,Year 2024 /DOI http://dx.doi.org/10.1007/s11042-024-19865-7 >
3.	<Title of Article Performance Metrics on Hyperspectral Images in Fuzzy Contextual Convolutional Neural Network for Food Quality Analyzer>Published in <International Journal of Uncertainty, Fuzziness and Knowledge-Based Systems, ISSN 0218-4885,Year 2023 /DOI https://doi.org/10.1142/S0218488522400104 >
4.	<Title of Article Clinical Assessment of Diabetic Foot Ulcers Using GWO-CNN based Hyper spectral Image Processing Approach>Published in <IETE JOURNAL OF RESEARCH, ISSN 0377-2063,Year 2022 /DOI https://doi.org/10.1080/03772063.2022.2099469 >

5.	<p><Title of Article</p> <p>Hyper Spectral Fruit Image Classification for Deep Learning Approaches and Neural Network Techniques>Published in <International Journal of Uncertainty, Fuzziness and Knowledge-Based Systems, ISSN 0218-4885, Year 2023 /DOIhttps://doi.org/10.1142/S0218488522400116</p>
6.	<p><Title of Article</p> <p>A DEEP LEARNING TECHNIQUE FOR DETECTING AND ANALYSING COVID-19 USING CHEST CT IMAGES>Published in Springer<</p> <p>Journal of Signal Processing Systems (2023) 95:1037–1050 https://doi.org/10.1038/s41598-021-98432-4</p>
7.	<p><Title of Article</p> <p>Deep Learning Technique on 3D MRI Lung Images for Detection and Segmentation of Covid-19 Virus>, Published in Wiley <Expert Systems, 0266-4720, 2023/ https://doi.org/10.1111/exsy.13378></p>
8.	<p><Title of Article</p> <p>Habitual detection and measurement of human blood cells on hyperspectral imagery for convolutional neural network>Published in InderScience<International Biomedical Engineering and Technology, Vol. 45, No. 1, 2024 1https://doi.org/10.1504/IJBET.2024.138620</p>

Research Guidance

No. of Ph.D Completed: __5	No. of Ph.D Pursuing: __2
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Conferences/Seminars/Workshops Participated during the period 2018-24

Organized	International: _1	National: _2
Participated	International: _83	National: _20

Academic Associations and Affiliations during the period 2018-24

1.	<p>Recognizing service rendered as a Coordinator in the Hands on Training on “Web Apps Development” held on 12thFeburary 2024 organized by the Centre for Information Technology and Engineering, Manonmaniam Sundaranar University, Tirunelveli.</p>
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2.	Recognizing service rendered as a Organizing Committee Member for the one day seminar on "Block Chain Unveiled:Exploring the Fundamentals, Features and its applications organized by the Centre for Infromation Technology and Engineering,ManonmaniamSundaranar University,Tirunelveli.9-2-2024
3.	Review Committee Member in IEEE International Conference on Advances in Energy-efficient Computing and Communication (ICRAECC-2019) on March 7th and 8th 2019 organized by St. Xavier's Catholic College of Engineering, Chunkankadai, K.K. Dist in association with the IEEE student branch 62851, IET KKLN and ACM-SXCCE Chapter
4.	Recognizing service rendered as Organizing Committee Members in the one day Internship Program on "Stay Safe at Cyberspace-Cyber Security Empowerment For Teachers Community" Organized by Centre for Information Technology and Engineering,ManonmaniamSundaranarUniversity,Tirunelveli
5.	Inspection Commission to visit Government Arts and Science College for Women, Alangulam, Tenkasi District on 06.06.2023
6.	Inspection Commission on 06.06.2022 to visit Sivanthi Arts and Science College for Women, Udangudi for verifying the infrastructure facilities, qualification of the faculty members.
7.	Appreciation for Organizing Committee Member for the Two day Work shop on "Softcraft-'22 " Organize by CITE , ManonmaniamSundaranar University
8.	Annual Inspection Committee Member1 for PET Arts & Science (Co-education) College Vallioor for verifying the infrastructure facilities on 01.06.2022 for the academic year 2022-23
9.	University Representative for Valanar Arts and Science College Kuruvikulam for the period of three years.
10.	M.Sc Information Technology Coordinator for the academic Year 2023-2024 and M.Phil Coordinator for Academic Year 2020-2023.

Member - Editorial Board/Panel of Reviewer during the period 2018-24

1.	Editorial Board member of International Journal of Management Sciences, Innovations and Technologies (IJMSIT) from 1st January 2021 to 31st December 2021
2.	Fulfilled the duties as an Editorial Board Member of World Journal of Computer Application and Technology, June 18,2020

3.	Technical Program Committee Member in International Conference on Machine Learning and Big Data 2018 (ICMLB-2018) held on 23rd August 2018
4.	Advisory Board member of the International Conference on Emerging Trends in Intelligent Computing jointly organized by the Department of Computer Science, Computer Application & Information Technology, JP College of Arts & Science, Ayikudi, Tenkasi on 11th and 12th August,2021
5.	Paper Reviewer: International Journal of Computer Trends and Technology, Seventh Sense Research Group India E-ISSN: 2231-2803. P-ISSN: 2349-0829.
6.	Reviewed the IEEE Article "Rectangular Sensor Array with Current Measurement Method Based on TMR for HVDC Applications (August 2019)" IEEE Access, New York, USA
7.	Reviewer in International Journal of Scientific & Engineering Research –IJSER ISSN 2229-5518
8.	Technical Reviewer at the Second IEEE and ACM Collaborative International Conference on Emerging Trends in Information Technology and Engineering,ic,ETITE'24 on February 22-23,2024 organized by School of Computer Science Engineering and Information Systems, Vellore Institute of Technology , Vellore

International Visits during the period of 2018 -24

S.No.	Country Visited	Purpose of Visit
1.	Nil	

Any Other Academic Achievements/Recognition during the period of 2018 -24

1.	Recognition for International Design Patent on Human Interactive Robot on 19.01.2024
2.	Recognition as a Resource person in INTERNATIONAL CONFERENCE ON APPLICATIONS OF MATHEMATICS IN DATA SCIENCE and give a talk about "Recent Research Trends in Hyperspectral Data Processing" on 27th – 28th February 2024

3.	Recognition as Resource Person for Oral presentation of the paper titled "Research trends in Hyperspectral Data Processing" on 3rd Tech Summit on Artificial Intelligence and Robotics" held on April 23, 2024.
4.	Recognition as Mentor for NPTEL online certification course on Introduction to Industry 4.0 and Industrial Internet of Things (Jan-April 2024)
5.	Resource Person for Second National Research Workshop on A Perspective and Challenges in Onboard Processing of Hyperspectral Imagery on 20.9.2024
6.	Achievement for Participation in One week Faculty Development Program on Cloud Practitioner conducted by ICT Academy on 25 June 2024 to 29 June 2024 at PSR Engineering College.
7.	Chief guest for 7th International Conference "Emerging Trends in Engineering, Management and Computer Applications-ICETEMA 2K23 on 16.8.2023.
8.	Contributed as a Chief Guest of Webinar Titled "Enlightening Business on Remote Communication" organized by Department of Commerce, Madurai Gandhi NMR Subbaraman College for Women, Madurai held on 9th June 2021.
9.	Served as a Resource Person in ISRO Sponsored Five Days National Level Workshop on "Advanced research Techniques for Satellite Image Analysis using Image Processing" on 12.09.2018 at K.L.N College of Information Technology, Madurari-Nedungulam Road, Pottapalayam, Tamilnadu
10.	As an invited speaker took webinar session on "E-Waste: Global Perspective "Sponsored by RUSA project, MHRD, Government of India, Organized by BHARATHIAR UNIVERSITY, Coimbatore, Tamil Nadu, India for the Webinar on "E-Waste Management: An Entrepreneurial Approach for Creating Awareness and Opportunities for College Students" on 19.10.2020 to 3.11.2020
11.	Copyright Published on AI BASED SYSTEM AND METHOD FOR COMBINATION THERAPY FOR CANCER TREATMENT -Registration Number-L-115611/2022
12.	Patent Published on A learning Device for Detecting Fault Conditions Between Shipment Inspection Information Using Machine Learning on 06.01.2023- Application No.202241075505A Date of filing:26/12/2022

13.	Patent Published on Detect Inconsistencies and attacks in a Computing Network Using Machine Learning for Cyber Security- The Patent Office Journal No .45/2021 Dated 05/11/2021
14.	Patent Published on Mobility Assisted OTA Working Out for Backscatter Sensor Networks Using Machine Learning-The Patent Office Journal No. 25/2020 Dated 19/06/2020
15.	Patent Published on Mining opinion from structural content in microblog using machine learning-The Patent Office Journal No .45/2022 Dated 03/12/2022
16.	Winner for the sports event in the international Women's Day 2019 competition held at Centre for Women Empowerment and women Studies, Manonmaniam Sundaranar University, Tirunelveli on 8th March, 2019
17.	Participated & completed successfully AICTE Sponsored Online Short Term Training Program (STTP) on Funding Project Proposal Drafting & IPR Design, Filing, Copyright and Patenting Strategies from 11-03-2024 to 15-03-2024 organized by National Institute of Technology Nagaland.
18.	Resource Person for PG and Research Department of Computer Science and delivered a lecture on Recent Trends in Information Technology on 26.10.22 at Rani Anna Government College for Women, Tirunelveli.
19.	Resource Person for kani tamil peravai and deliver the topic on creating the Tamil software Training on 12.05.2023 held at Centre for Information Technology and Engineering, Manonmaniam Sundaranar University.
20.	Program Coordinator for the Two days Workshop on IOT and its applications organized by Centre for Information Technology and Engineering, Manonmaniam Sundaranar University, Tirunelveli 627 012 on 29.03.22 and 30.03.22.

BIO DATA

Dr. T. ARUMUGA MARIA DEVI

Personal Details:

Name : Dr. T. Arumuga Maria Devi
Father's Name : Sri V.Thanu
Designation : Assistant Professor
Department : Centre for Information Technology and Engg.,
University : Manonmaniam Sundaranar University
Date of Birth : 23 March 1982
Email : deviececit@gmail.com/arumugamariadevi@msuniv.ac.in
Sex : Female
Nationality : Indian
Marital Status : Married
Contact Number : 9677996337



Address for Communication

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Assistant Professor Centre for Information Technology and Engineering Manonmaniam Sundaranar University Abishekapatti, Tirunelveli – 627 012 Tamilnadu, India	11, Block 3, Staff Quarters Manonmaniam Sundaranar University Tirunelveli - 627012, Tamilnadu, India

Educational Details

- **Ph.D.** (Doctor of Philosophy) in Information Technology - Computer Science and Engineering under Faculty of Engineering, Manonmaniam Sundaranar University, Tirunelveli, Tamilnadu, India (2010-2012) awarded December 24, 2012 with Commended.

Subject : Image and Video Processing

Title of the thesis : “Temporal Hyper spectral Video Transcoding for Web Browsing”

- **M.Tech.** (Master of Technology) Computer and Information Technology, Faculty of Engineering, Manonmaniam Sundaranar University, Tirunelveli, Tamilnadu, India, (2003-2005), awarded April 2005 with First Class with Distinction.
- **B.E.** (Bachelor of Engineering) Electronics & Communication Engg., PET Engineering College, Vallioor, Manonmaniam Sundaranar University, Tirunelveli, Tamilnadu, India, (2001-2003), awarded April 2003 with First Class.

Area of Interest:

Academic interest	Research Interest
Data and computer Communication, Image and signal Processing, Communication Engineering, Mobile communication etc.,	Medical Image Processing, Computer Networks, Deep learning, Video processing.

Patent/Copyright Details:

Title	Publication Date	Patent office Reference No.	Name of Inventor
Mobility Assisted OTA Working Out for Backscatter Sensor Networks Using Machine Learning	19.06.2020	The Patent Office Journal No. 25/2020 Dated 19/06/2020	1. Dr. T. Arumuga Maria Devi 2. Mr. MEBIN JOSE V.I, PhD 3. Mr. D. MUTHUKUMAR, PhD , Research Scholar 4. Mr. SAJI K S, PhD , Research Scholar 5. Mr. DARWIN. P, PhD , Research Scholar 6. Mr. Vignesh Ramamoorthy H 7. Prof .B.J . Dange 8. Mr. Khodke Harish Eknath 9. Ms. Priyadharshini

<i>Detect Inconsistencies and attacks in a Computing Network Using Machine Learning for Cyber Security</i>	05.11.2021	<i>The Patent Office Journal No .45/2021 Dated 05/11/2021</i>	<i>1.Dr.T.Arumuga Maria Devi 2.Mrs.Thangaselvi 3.Dr.V.Harsha Shastri 4.Dr.R.NadhaKumar 5.Prof.Ambresh Bhadrashetty 6.Dr.Anurag Verma 7.Dr.Om Prakash Yadav</i>
A learning Device for Detecting Fault Conditions Between Shipment Inspection Information Using Machine Learning	06.01.2023.	<i>Application No.202241075505 A Date of filing:26/12/2022</i>	<i>Position 1: Dr.T.ARUMUGA MARIA DEVI</i>
Mining opinion from structural content in microblog using machine learning	03/12/2022	<i>The Patent Office Journal No .45/2022 Dated 03/12/2022</i>	<i>Position 6: Dr. T. Arumuga Maria Devi, Centre for Information Technology Engineering, Manonmaniam Sundaranar University, Tirunelveli,</i>
AI BASED SYSTEM AND METHOD FOR COMBINATION THERAPY FOR CANCER TREATMENT	Registration Number-L-115611/2022	Indian Copy Right	<i>Position 1: Dr.T.ARUMUGA MARIA DEVI</i>
MACHINE LEARNING BASED BONE CANCER TREATMENT DEVICE	05.12.2023	<i>The Patent Office Journal No.2024 Dated 05/12/2023 GRANT date 04 December 2023 UK Design number:6329132 Registration Date:27 November 2023 International UK Design</i>	<i>1. Dr.Arumuga Maria Devi 2. Mrs.Ajitha S Raj, Research Scholar 3. Mr .RAJARAM SOUNDARAPANDIAN 4. Dr. SIVANAGIREDDY KALLI 5. Mrs. JEYALAKSHMI SELVARAJ 6. Dr .VIKNESHKUMAR DHARMALINGAM 7. Dr. MOHAMMED SIDDIQUE 8. Dr. KANNAN VELLINGIRI</i>
HUMAN INTERACTIVE ROBOT	18.01.2024	<i>The Patent Office Journal No.2024 Dated 19/01/2024 Design number :6338047 Grant Date 18 January 2024</i>	<i>1. Dr. ARUMUGA MARIA DEVI 2. Mr. CHOCKALINGAM ARUMUGAM 3. Mr.UTHAYA SURIYAN 4. Dr. SANTHANAKUMAR 5. Dr. SATHISH KUMAR 6. Dr. CHITRADEVI</i>

		<i>Registration Date:06 January 2024</i> <i>International UK Design Classification:Version:14-2023</i>	7. Mr. RAVEENDRA NANDHANAVANAM 8. Mr. CHITRA SABAPATHY
AI BASED MENTAL STRESS DETECTION DEVICE	10 November 2024	https://search.ipindia.gov.in/DesignApplicationStatus <i>Design Application no: 437111-001</i>	1. Mr. Sudeesh Sankaravel 2. Dr.Sudharsan rengasamy 3. Dr.T.ARUMUGA MARIA DEVI 4. Mrs. Ajitha Raj 5. Dr.Balasaheb Bhamangol 6. Dr.Trupti dandekar Humnekar 7. Dr.Sunil Khilari 8. Dr. V.Kannan

FIVE SCI JOURNALS PUBLICATION

Title	Journal Name	Authors	ISSN/ISBN No
Performance Metrics on Hyperspectral Images in Fuzzy Contextual Convolutional Neural Network for Food Quality Analyzer	International Journal of Uncertainty, Fuzziness and Knowledge-based Systems	Dr.T.Arumuga Maria Devi P.Darwin	ISSN(print):0218-4885 ISSN (ONLINE):1793-6411
Analysis of Biomembranes in mortal Red Blood Cubicles and Periphara Mononuclear Cubicles	International Journal of Electronics and Communications	Dr.T.Arumuga Maria Devi, Thangaselvi	Accepted to publish
Clinical Assessment of Diabetic Foot Ulcers Using GWO-CNN based Hyperspectral Image Processing Approach	IETE JOURNAL OF RESEARCH	Dr.T.Arumuga Maria Devi, hepzhilai	TIJR2099469 VOL 00, ISS 00

Hyper Spectral Fruit Image Classification for Deep Learning Approaches and Neural Network Techniques	International Journal of Uncertainty, Fuzziness and Knowledge-based Systems	Dr.T.Arumuga Maria Devi P.Darwin	ISSN(print):0218-4885 ISSN (ONLINE):1793-6411
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Other Three Best Publications in Scopus/Conference.

Performance Comparison on Various Bio Electrical Signals of MRI, CT and HSI in Human Abnormal conditions using Hyperspectral Signal Analysis based 3D Visualization, Volume 04, Issue 04, July 2018, International Journal for Research in Engineering Application and Management Scopus and UGC approved Journal 10.18231/2454-9150.2018.0567	2018
Performance Analysis of Image Transmission with Different Transforms in MC-CDMA 10.1109/ICRAECC43874.2019.8995128-Scopus 2019 International Conference on Recent Advances in Energy-efficient Computing and Communication (ICRAECC)	2019
Detection of Normal and Abnormalities from Diabetics Patient's Foot on Hyperspectral Image Processing Published in: Innovations in Computer Science and Engineering https://www.springerprofessional.de/en/detection-of-normal-and-abnormalities-from-diabetics-patient-s-f/17767196	2020