

Profile of Dr.T.Kalaiselvi



- (i) **Designation** : Assistant Professor
- (ii) **Qualification** : M.C.A, Ph.D., PDF
- (iii) **Specialization** : MRI Brain Image Segmentation
Computer Vision, Machine Learning,
Internet of Things (IoT) & Robotics
- (iv) **Email id** : kalaiselvi.gri@ruraluniv.ac.in , kalaiselvi.gri@gmail.com
- (v) **Professional Experience:** 21 years in Teaching and 17 years in Research

2011-till date	Assistant Professor in Computer Science and Applications The Gandhigram Rural Institute, Gandhigram, Dindigul
2011 (TRB) (Mar-June)	Assistant Professor in Computer Applications Alagappa Government Arts College, Karaikudi
1998-2006	Lecturer in Computer Science and Applications The Gandhigram Rural Institute, Gandhigram, Dindigul
1997-1998	Lecturer in Computer Science Avinashilingam Deemed University for Women, Coimbatore

(vi) **Research Guidance:**

Degree	Awarded	Submitted	Guiding
M.Phil	21	-	-
Ph.D	6	1	2

(vii) **Publications:** <https://ruraluniv.irins.org/profile/107254>

S.No.	Category	Total
1.	International and National Journals	78
2.	Conference Proceedings	2
3.	Books Chapters	21
4.	Books	8

Selected Publications: <https://orcid.org/0000-0002-0197-2077>

S No	Title of the Article	Name of the Journal	I/N	ISBN ISSN	Vol.	Pages	Month & Year
1	E-Tanh: a novel activation function for image processing neural network models	Neural Computing and Applications, Springer (IF: 5.102)	I	https://doi.org/10.1007/s00521-022-07245-x	34	16563–16575	October 2022

2	Multimodal covid network: Multimodal bespoke convolutional neural network architectures for COVID-19 detection from chest X-ray's and computerized tomography scans	International Journal of Imaging Systems and Technology (IF: 2.177)	I	https://doi.org/10.1002/im.a.22712	32(3)	704-716	May 2022
3	An automatic self-initialized clustering method for brain tissue segmentation and pathology detection from magnetic resonance human head scans with graphics processing unit machine	Concurrency and Computation: Practice and Experience (IF: 1.831)	I	https://doi.org/10.1002/cpe.6084	33(5)	-	March 2021
4	Automatic Brain Extraction From MRI of Human Head Scans using Helmholtz Free Energy Principle and Morphological Operations	Biomedical Signal Processing and Control, Elsevier (IF:5.076)	I	1746-8094	64(102270)	1-15	November 2020
5	Three-Phase Automatic Brain Tumor Diagnosis System using Patches based Updated Run Length Region Growing Technique	Journal of Digital Imaging, Springer (IF: 4.903)	I	https://doi.org/10.1007/s10278-019-00276-2	33	465-479	April 2020
6	Modified Local Ternary Pattern Technique for Brain Tumor Segmentation and Volume Estimation from MRI Multisequence Scans with CUDA Enabled GPU Machine	Biocybernetics and Biomedical Engineering, Elsevier (IF:5.687)	I	0208-5216	39(2)	470-487	April 2019
7	Energy Update Restricted Chan-Vese Model for Tumor Extraction from MRI of Human Head Scans	International Journal of Computational Methods (IF:1.734)	I	10.1142/S0219876217500815	15	-	2018

8	A new fuzzy clustering algorithm for the segmentation of brain tumor	Soft Computing (IF: 3.732)	I	10.1007/s 00500- 015- 1775-5			
9	Automatic brain extraction methods for T1 magnetic resonance images using region labeling and morphological operations	Computers in Biology and Medicine, Elsevier, (IF: 6.698)	I	10.1016/j. compbio med.2011 .06.008	41(8)	716-725	August 2011
10	Fully Automatic Brain Extraction Algorithm for Axial T2-Weighted Magnetic Resonance Images	Computers in Biology and Medicine, Elsevier, (IF: 6.698)	I	10.1016/ j.compbi omed.20 10.08.00 4	40(10)	811-822	October 2010

viii) Major R&D projects completed/ongoing and financial outlay:

Sl. No	Title of the Project	Funding Agency	Scheme	Duration	Total Amount (Lakhs)
1	Development of an Automatic Tool for Brain Image Extraction and Brain Tumor Detection from Magnetic Resonance Imaging (MRI) Head scans	DST, SEED division	Young Scientist Scheme	3 years (Oct 2008 - Oct 2011) Completed	8.7
2	Development of an Automatic Methods for Identifying the Afflicted Brain from Brain Signals using Computational Intelligence Techniques	UGC	MRP	Recommended by Interface Meeting, Dec 2014	9
3	Production of Seaweed Based Plant Growth Promoters and Biopesticides and Edible Coating Blends for Fruits and Vegetable Preservation for the Livelihood Development of Fisherfolk	NCDC, GoI	PMMSY Scheme	1 year (Nov 2022 – Nov 2023) Ongoing	50
Total Cost					58.7

(xi) **Conferences Organized** : 3(x) **Seminars/Conferences/Workshops attended** : 20(xi) **Awards, Honors and Fellowship:**

1991	Recipient of Shri C. Subramaniam Award for Excellence in Character from Bharatiya Vidya Bhavan, Bombay
2008	Recipient of Young Scientist Scholarship from DST, Govt of India under SEED Division
2015	Received a GPU hardware unit named "Nvidia Quadro K5000" worth of \$2500 from Nvidia Corporation limited, USA under "Hardware Donation Programme for Faculty"

- (xii) **Invited talks in National / International Conference** : 65
(xiii) **Visits abroad** : Canada
Visiting Scientist from 21.05.2013 to 14.07.2013
1) University of New Brunswick, St.John
2) OCAD University, Toronto

(xiv) **Additional responsibilities:**

- 1) Editorial Board Member, Informatics in Medicine Unlocked, Elsevier Journal
- 2) Reviewer for International and National journals
- 3) Life Member in Indian Society for Technical Education (ISTE), Life Member in Telemedicine Society of India (TSI) and Regular Member in Machine Intelligent Research (MIR) Lab, Washington, USA.
- 4) Board of Studies member
- 5) Organizing Committee Member, Conferences and Workshops
- 6) Deputy Warden (2013 to till date), GRI Ladies Hostel
- 7) Coordinator (2013), GRI Orientation Programme
- 8) Executive Committee member, UBA, GRI
- 9) Advisory Committee Member, Web-site Management, GRI
- 10) Advisory Committee Member, IPR Cell, GRI
- 11) Coordinator, Research Quality Circle, DCS&A, GRI
- 12) Alumni Cell in-charge, DCS&A, GRI
- 13) Placement Officer (2020-2023), DCS&A, GRI
- 14) Library in-charge (2014-2017), DCS&A, GRI
- 15) Student mentor, DCS&A, GRI

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