

FACULTY PROFILE

S. KALAISELVI,

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National Engineering College,
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Research Area

Remote Sensing, Image Processing, Data Analytics

Supervisor Recognition

- Anna University – Chennai (Ref. No: 4140004)
- Ph.D., Scholars: In Progress: 4

Professional Experience

Institution / Organization	Designation	Period
National Engineering College, Kovilpatti	Associate Professor	06.04.2022 – till date
	Assistant Professor (SG)	01.08.2016 – 05.04.2022
	Assistant Professor	01.11.2011 – 31.07.2016
	Lecturer	01.06.2009 – 31.10.2011
Arasan Ganesan Polytechnic College, Sivakasi	Lecturer	June 2006 – May 2007
Aditanar Arts and Science College, Tiruchendur	Lecturer	Sep 2004 – May 2005

Membership in Professional Bodies

IEEE, IEEE-CS

Publications (SCI and Scopus Indexed)

1. “Downstream Lingering Attention Transformer Network (DsLATNet) for Land use Land cover Classification: A Bicolor Deep Learning Framework”, V. Anitha, D. Manimegalai, **S.Kalaiselvi**, Applied Soft Computing, Elsevier, Volume 165, November 2024, 112074. DOI: <https://doi.org/10.1016/j.asoc.2024.112074>. (IF : 7.2)

2. "Sensor-based human activity recognition using fuzzified deep CNN architecture with λ max method", Gomathi V, **Kalaiselvi S**, Thamarai Selvi D, Vol. 42 No. 2, pp. 250-262, Jan 2022. DOI: <https://doi.org/10.1108/SR-06-2021-0195>. (IF : IF : 1.583)
3. " α -cut induced Fuzzy Deep Neural Network for change detection of SAR images", **S. Kalaiselvi** and V. Gomathi, Applied Soft Computing, Elsevier, Vol 95, Oct 2020. DOI: <https://doi.org/10.1016/j.asoc.2020.106510>. (IF : 5.472)
4. "Emotion Recognition from Speech – an LSTM approach with the Tess Dataset", K Sankara Pandiammal, S Karishma, K Harine Sakthe, V Manimaran, **S Kalaiselvi**, V Anitha, IEEE Xplore, July 2024. DOI: [10.1109/ICITIT61487.2024.10580351](https://doi.org/10.1109/ICITIT61487.2024.10580351).
5. "Resnet-50 Integrated with Attention Mechanism for Remote Sensing Classification", M. Harini, S. Selvarashini, P. Narmatha, V. Anitha, **S. Kalai Selvi** & V. Manimaran, Lecture Notes in Networks and Systems (LNNS), Springer, Vol. 955, pp 255–265, June 2024. DOI: https://doi.org/10.1007/978-981-97-1841-2_19.
6. "A Decentralized Fog Architecture for Video Preprocessing in Cloud-based Video Surveillance as a Service", Divya G, Swetha K, Siva Shruthika S, Guru Santhosh P, Santhi S and **Kalaiselvi S**, IEEE Xplore, pp. 904-910, May 2024. DOI: [10.1109/ICC-ROBINS60238.2024.10533958](https://doi.org/10.1109/ICC-ROBINS60238.2024.10533958).
7. "Convolutional neural network for remote sensing classification", Hazeena Mariyam Fathima, Maha Lakshmi, Padma Pooja, Anitha, **Kalaiselvi**, AIP Conference Proceedings, Vol. 2831, Issue 1, Sep. 2023. DOI: <https://doi.org/10.1063/5.0171255>.
8. "Image Captioning for Colorectal Cancer Using Deep Learning Approaches", G. Pavithra, V. Gomathi, D. Thamarai Selvi, P. Selva Rathinam & **S. Kalaiselvi**, Algorithms for Intelligent Systems, Springer, pp 261–275, September 2023. DOI: https://doi.org/10.1007/978-981-99-3485-0_20.
9. "A Recommendation System for Crop Prediction Under Diverse Weather Conditions", P ShunmugaLakshmi, V Ram Kishore, Pillai Pratham Ramachandran, S Santhi, **S Kalaiselvi**, IEEE Xplore, Page(s): 1704 - 1709, May 2023. DOI: [10.1109/ICACCS57279.2023.10112944](https://doi.org/10.1109/ICACCS57279.2023.10112944).
10. "A Novel Object Detection Framework using Convolutional Neural Networks (CNN) and RetinaNet", Archana V, **Kalaiselvi S**, Thamaraiselvi D, Gomathi V, Sowmiya R, IEEE Xplore, Page(s): 1070 - 1074, February 2023. DOI: [10.1109/ICACRS55517.2022.10029062](https://doi.org/10.1109/ICACRS55517.2022.10029062).
11. "A Sentimental Analysis of Legal Documents using Deep Learning Approach", Shunmuga Lakshmi Priya. K, Thamarai Selvi. D, **Kalaiselvi. S**, Gomathi. V, IEEE Xplore, Pg. 1212 - 1219, February 2023. DOI: [10.1109/ICACRS55517.2022.10029322](https://doi.org/10.1109/ICACRS55517.2022.10029322).
12. "Road segmentation from remote sensing images using fuzzy based convolutional neural network", J. Hepzibah, **S. Kalaiselvi**, V. Anitha, V. Gomathi, AIP Conference Proceedings, 2444, 040007, March 2022. DOI: <https://doi.org/10.1063/5.0078336>.

13. "Air quality prediction using remote sensing", R. Raja Selvi, M. Shruthi, G. Nithya, **S. Kalaiselvi**, M. Jayalakshmi, V. Gomathi, AIP Conference Proceedings, 2444, 040005, March 2022. DOI: <https://doi.org/10.1063/5.0078338>.
14. "Intelligent sales prediction using ARIMA techniques", K. N. Manikandan, A. Saranya, D. Jothi Deetshiha, K. Sushmitha, Dharani, V. Anitha, **S. Kalaiselvi**, AIP Conference Proceedings, 2444, 040006, March 2022. DOI: <https://doi.org/10.1063/5.0078379>.
15. "Prognosticating clinical incidents via recurrent neural networks by using clinical doctor AI", European Journal of Molecular & Clinical Medicine, Vol. 08, Issue 03, 2021.
16. "Fraud Detection Method for Low-Frequency Transaction", S.Muthu Gomathy, S.Priyanga, Rupa Shri, **S.Kalaiselvi**, Dr.V.Gomathi, Gis Science Journal, Vol.8, Issue 3, Page No: 388-399, March 2021. DOI: 20.18001.GSJ.2021.V8I3.21.36703.
17. "Hyperspectral Satellite Image Classification Using Convolutional Neural Network For Crop Analysis", Abarna S, Hemalatha S, Poojaa M, Ms.V.Anitha, **S.Kalaiselvi**, Dr.D.Manimegalai, Gis Science Journal, Vol.8, Issue 3, Page No: 295-305, March 2021. DOI:20.18001.GSJ.2021.V8I3.21.36692.
18. "Applying Government Schemes in Rural Sectors Prediction System for Evaluation of Data Science Algorithm", S. Maheswari, **S. Kalaiselvi**, D. Thamarai Selvi, M. Manochitra, International Journal of Recent Technology and Engineering (IJRTE), PP: 70-79, Vol-9 Issue-5, January 2021. DOI: [10.35940/ijrte.E5140.019521](https://doi.org/10.35940/ijrte.E5140.019521).
19. "Air Quality Prediction Through Regression Model", A.Aarthi, P.Gayathri, N.R.Gomathi, **S.Kalaiselvi**, Dr.V.Gomathi, International Journal of Scientific & Technology Research, Vol 9, Issue 03, ISSN 2277-8616, March 2020.
20. "Change Detection from Remotely Sensed Images using Fuzzy Distance Measure", R.Kanaga Rathnam, **S.Kalaiselvi**, Dr.V.Gomathi, Dr.K.G. Srinivasagan, International Journal of Advance Research In Science And Engineering (IJARSE), Vol. No.4, Special Issue (02), ISSN-2319-8354(E), March 2015.
21. "An efficient method for crowd event recognition based on motion patterns", C. Rajanayaki Sindhuja, K.G. Srinivasagan, **S. Kalaiselvi**, IEEE Xplore, Page(s): 1 - 6, December 2014. DOI: [10.1109/ICRTIT.2014.6996124](https://doi.org/10.1109/ICRTIT.2014.6996124).
22. "Unsupervised monitoring of urban land use and land cover change detection in multitemporal images", N. Sathya, **S. Kalaiselvi**, V. Gomathi, K.G. Srinivasagan, IEEE Xplore, Page(s): 1 - 5, September 2014. DOI: [10.1109/ECS.2014.6892722](https://doi.org/10.1109/ECS.2014.6892722).

International & National Conference Participations

1. Predicting Landuse Landcover Dynamics of Urban Growth using CA Markov Model at ISERDM -2023 organized by NIT Trichy and C- DAC, Tiruvananthapuram during 09.01.2023 to 11.01.2023.

2. Convolutional Neural Network for Remote Sensing Classification at ICRACIA 2021 organized by M.Kumarasamy College of Engineering on 31.03.2021.
3. Blood Pressure Monitoring System During Pregnancy at ICCET'19 organized by Prince Sri Venkatewara Padmavathy Engineering College on 09.03.2019.
4. Kernel Based FCM for Change Detection in Multitemporal Remote Sensing Images at ICCCI'16 organized by Alagappa Chettiar College of Engineering, Karaikudi on 06.10.2016.
5. Classification of Landuse Images using Deep Learning Networks on ICIECS'16 organized by Karpagam College of Engineering, Coimbatore during 17th & 18th March 2016.
6. Land use Land cover Classification of remotely sensed data using Object Based Segmentation at ICIECS'15 organized by Karpagam College of Engineering, Coimbatore on 15.03.2015.
7. Change Detection from Remotely Sensed Images using Fuzzy Distance Measure at ICCTRD'15 organized by SCAD College of Engineering, Tirunelveli on 12.02.2015.
8. Urban post conflict change classification performance using optimal wavelet features in Self organizing feature map at ICRTIT'14 organized by Madras Institute of Technology, Chennai during April 2014.
9. An Efficient Method for Crowd Event Recognition based on Motion Patterns on ICRTIT'14 organized by Madras Institute of Technology, Chennai during April 2014.
10. Unsupervised Monitoring of Urban Land use and Land cover change detection in Multi temporal images on ICECS'14 organized by Karpagam College of Engineering, Coimbatore during 13th & 14th February 2014.
11. A Registration Technique for Medical Images using Fuzzy SIFT Matching at ICIECS'14 organized by Karpagam College of Engineering, Coimbatore during 13th & 14th March 2014.
12. Unsupervised Change Detection of Tumor in Medical Images on BSSI'12 organized by IIT Chennai on 29.11.2012.
13. Unsupervised Change detection using UDWT and neural networks on ICACC'12 organized by Teja Sakthi Institute of Technology for Women, Coimbatore during 9th & 10th January 2012.
14. Multi-view based Human Activity Recognition using discrete hidden markov models on ICONCT '09 organized by Mepco Engineering College, Sivakasi on 9th December 2009.
15. Land use Land cover Classification of remotely sensed data using Multi-Scale Segmentation on NCACM'15 held at Anna university, Coimbatore Region during March 2,3 2015.
16. An Efficient Crowd Behavior Recognition using Motion Patterns for Intelligent Video Surveillance on ETCCT'14 held at Coimbatore Institute of Technology, Coimbatore during 03.03.2014 & 04.03.2014.
17. Fuzzy rule based classification of multispectral images using SOM on VISION'13 held at Government College of Engineering, Tirunelveli during March 2013.
18. Clustering Based Registration of Remotely Sensed Data on VISION'13 held at Government College

19. of Engineering, Tirunelveli during March 2013.
20. Unsupervised Change Detection in Multitemporal satellite images using Undecimated Discrete
21. Wavelet Transform on NLC IPC'11 organized by PSG College of Technology and PSG Ploytechnic, Coimbatore during 17th & 18th November 2011.
22. Spatial Transform Invariant Human Activity Recognition on MEPCOIT'09 held at Mepco Engineering College, Sivakasi on 13th March 2009.

Research Facilities Created / Initiated

- Established "Centre of Image Processing Lab", through NEC Seed Money Proposal (Rs. 4.62 Lakhs)

Technical Events Organized

S. No	Title	Grant Details	Venue	Duration
1.	IEEE CS Sponsored one day project exhibition – IEEEPROEXPO'23	IEEE-CS Madras Rs.10,000/-	National Engineering College - Online	13.10.2023
2.	AICTE sponsored ATAL FDP on Predictive Intelligence Models and its Applications	AICTE - Rs.93,000	National Engineering College - Online	12.07.2021 to 16.07.2021
3.	NVIDIA – DLI Workshop in Fundamentals of Deep Learning	Intra College Programme	National Engineering College	17.04.2021
4.	Infosys Seminar- Overview of Python	Intra College Programme	National Engineering College	12.09.2019
5.	Infosys Seminar – Industry Perspectives	Intra College Programme	National Engineering College	10.09.2019
6.	Insights into Machine Learning and Deep Learning Approaches	Self - Supported	National Engineering College	19.07.2019 to 20.07.2019
7.	AICTE Approved workshop on "AI & Deep Learning", technically sponsored by Bennett University, Noida	Self - Supported	National Engineering College	28.12.2018 to 30.12.2018
8.	Infosys - Seminar on Artificial Intelligence	Intra College Programme	National Engineering College	12.12.2017
9.	Infosys - Seminar on Software Testing	Intra College Programme	National Engineering College	27.09.2017
10.	Infosys- Train the Trainers Workshop for FA2 - DBMS	Intra College Programme	National Engineering College	02.11.2015 to 04.11.2015
11.	Matlab Applications for Engineering	Self - Supported	National Engineering College	22.08.2014 to 23.08.2014
12.	Hands on training in Matlab	Self - Supported	National Engineering College	23.08.2013 to 24.08.2013 & 30.08.2013 to 31.08.2013
13.	Advancements In Image Processing Towards Research	Self - Supported	National Engineering College	16.03.2013
14.	Exploring Matlab	Self - Supported	National Engineering College	20.10.2012

S. No	Title	Grant Details	Venue	Duration
15.	Insight into Matlab	Self - Supported	National Engineering College	16.09.2012

Technical Events Attended

S. No	Title	Venue	Duration
1.	AI/ML for Geodata Analysis	Indian Institute of Remote Sensing - Online	19.08.2024 to 23.08.2024
2.	Deep Learning for Natural Language Processing	National Institute of Technology, Trichy	18.12.2023 to 22.12.2023
3.	Data Science Tools	SRM Institute of Science and Technology, Tiruchirapalli	12.07.2023 to 01.08.2023
4.	Industry Know How	Alpha Solutions, Tirunelveli	17.04.2023 to 21.04.2023
5.	Artificial Intelligence Machine Learning and Deep learning	National Institute of Technology, Warangal	27-01-2023 to 31-01-2023
6.	ATAL FDP on Artificial Intelligence and Machine Learning for Healthcare	College of Engineering, Pune	13.12.2021 to 17.12.2021
7.	Machine learning with Azure ML	Coursera course	Nov 2021
8.	Develop a company website with Wix	Coursera course	Sep 2021
9.	TTT on Program on Creating Microsite on Infosys Springboard	Infosys - Online	31.08.2021 to 02.09.2021
10.	Fundamentals of Deep Learning	NVIDIA -DLI - Online	17.04.2021
11.	Overview of Geoprocessing using Python	Indian Institute of Remote Sensing - Online	18.01.2021 to 29.01.2021
12.	Online FDP on Internet of Things	NITK- STEP - Online	16.07.2020 to 18.07.2020
13.	Step into RPA	GUVI's Skill-a-thon	01.06.2020
14.	C++ for C programmers	Coursera Course	May 2020
15.	Introduction to Data science Python	Coursera Course	May 2020
16.	Python Django Web Development :To Do App	Udemy Course	Apr 2020
17.	Business Analytics and its Applications using R	National Institute of Technology, Trichy	28.09.2019 to 02.10.2019
18.	NPTEL - Python for Data Science	National Engineering College, Kovilpatti	Aug-Sep 2019
19.	FDP on Introduction to Python Programming	National Engineering College, Kovilpatti	01.08.2019 to 03.08.2019
20.	Scilab Workshop	Teaching Learning Centre, IIT Bombay- National Engineering College, Kovilpatti	04.05.2019
21.	Industry Know How Program on Machine Learning	Vyakya Technologies, Chennai	18.03.2019 to 22.03.2019
22.	Workshop on Deep Learning - AI	KLE Technological University, Hubli	11.08.2018 to 13.08.2018

S. No	Title	Venue	Duration
23.	NPTEL – Deep Learning	National Engineering College, Kovilpatti	July – October 2018
24.	GIAN course on Advance level course on Remote Sensing Image Processing and Analysis	NITK Surathkal, Mangalore	16.11.2017 to 20.11.2017
25.	Deep Learning	Mepco Schlenk Engineering College, Sivakasi	29.07.2017
26.	Technology enabled Teaching learning process	National Engineering College, Kovilpatti	27.05.2017 to 29.05.2017
27.	NPTEL - Programming, Data structures and Algorithms using Python	National Engineering College, Kovilpatti	Jan - Mar 2017
28.	Infosys - UI Technologies	K.S.R.College of Engineering, Tiruchengode	29.03.2017 to 31.03.2017
29.	Tech Mahindra- FDP	Tech Mahindra Ltd. Chennai	14.02.2017 to 16.02.2017
30.	Infosys - Foundation Program 5.0	Infosys Ltd. Chennai	26.12.2016 to 30.12.2016
31.	Recent Trends in Optimization Techniques and its Applications	Mepco Schlenk Engineering College, Sivakasi	05.12.2016 to 06.12.2016
32.	Bhuvan Overview Training	National Remote Sensing Centre, Hyderabad	22.03.2016 to 23.03.2016
33.	Train the Trainers on Python Programming	Saveetha Engineering College, Chennai	18.05.2015 to 20.05.2015
34.	Research Methodology	Anna University, Chennai	15.12.2014
35.	Data base Management System	Anna University, Tirunelveli Region	04.12.2013 to 10.12.2013
36.	Research: A Perspective	National Engineering College, Kovilpatti	30.11.2012 to 01.12.2012
37.	Recent Trends and Research Issues in Semantic Based Image Analysis	Mepco Schelenk Enginneering College, Sivaksi	10.10.2012 to 11.10.2012
38.	Soft computing techniques using Matlab	Dr.G.U.Pope Engineering College, Sawyerpuram	16.03.2012
39.	Prospective issues and methodologies in Human Machine Interaction	National Engineering College, Kovilpatti	17.05.2010 to 21.05.2010
40.	Soft Computing and Mathematical Modeling	Gandhigram Rural University, Dindigul	15.02.2010 to 20.02.2010
41.	Research Issues and Challenge on Image Processing towards Remote Sensing	National Engineering College, Kovilpatti	04.12.2009 to 05.12.2009
42.	DB2 Technologies	National Engineering College, Kovilpatti	19.11.2009 to 21.11.2009

Expert Lectures Delivered

- Delivered a session on “Artificial Intelligence on Military Cyber Security: Threats and Solutions”, for a DRDO sponsored Seminar organized at Sethu Institute of Technology, Kariapatti on 13.06.2024.
- Delivered a Webinar on “Programming in Java”, at VIT Bhopal on 05.01.2024.
- Delivered a Webinar on “Deep Learning”, at Francis Xavier Engineering College, Tirunelveli on 30.10.2023.
- Delivered a session on “Numpy”, during the six days Anna University sponsored Workshop on “Introduction to Data Science”, at Anna University, Tirunelveli Region on 24.08.2023.
- Delivered a session on “Machine Learning”, during the two days Workshop on “Computational Tools for Research”, at Kristu Jayanthi College, Bangalore on 07.10.2021.
- Acted as a Resource Person for IEEE Madras Section sponsored two-day online Workshop on “Data Science using Python”, held at Department of Computer Science & Engineering, National Engineering College during 29.01.2021 and 30.01.2021.
- Acted as a Resource Person for IEEE Madras Section Sponsored two-day online Workshop on “Machine Learning using Python”, held at Department of Computer Science & Engineering, National Engineering College during 31.01.2020 and 01.02.2020.
- Delivered a Guest Lecture on "Insights into Machine Learning and Deep Learning Approaches", at National Engineering College, Kovilpatti on 19.07.2019.
- Acted as a Resource Person for “Hands on training in the applications of Image processing using Fuzzy Logic”, at National Engineering College, Kovilpatti on 12.02.2019.
- Acted as a Resource Person for Hands on workshop on “Digital Image Processing using MATLAB”, at National Engineering College, Kovilpatti on 15.09.2015.
- Acted as a Resource Person for "Matlab Applications for Engineering", at National Engineering College, Kovilpatti during 22.08.2014 to 23.08.2014.
- Acted as a Resource Person for "Hands on training in Matlab", at National Engineering College, Kovilpatti during 23.08.2013 to 24.08.2013 and 30.08.2013 to 31.08.2013.
- Delivered a Guest Lecture on "Exploring Matlab", at National Engineering College, Kovilpatti on 20.10.2012.
- Delivered a Guest Lecture on "Insight into Matlab", at National Engineering College, Kovilpatti on 16.09.2012.

Awards / Appreciation

- Acted as a Proctor in IEEEExtreme 17.0 programming competition on 29th October 2023.
- Best SPoC award holder from Infosys in 2017.

Reviewer

- Elsevier - ASOC
- IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing
- Remote Sensing Letters
- ECTI Transactions on Computer and Information Technology

Specific / Remarkable Credentials in Academic & Administration

- Developed and overseeing software solutions for,
 - HR - Payroll Management
 - Academic Module
 - Recruitment Portal (NEC, LAPC, KR Arts)
 - Staff Performance Appraisal Portal (NEC, LAPC, KR Arts)
 - Grievance Portal (NEC, LAPC)
 - CBCS
 - R & D Portal
 - UPS management
 - Service Rules
 - Student Feedback
 - EB - Bill assessment
- Representing as College Website Coordinator
- Acting as ERP Coordinator
- Managing IOBPAY fee management for LAPC & KR Arts
- Acting as Infosys SPoC
- Worked as a Mentor in IMS project with Bizpluss Pvt Ltd from April 2019 to Dec 2021
- Associating in NBA & NAAC works
- Contributed in AICTE & Anna University Affiliation works