
Dr. K. Nandhini

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Assistant Professor
Department of Computer Science
School of Mathematics & Computer
Sciences
Central University Tamil Nadu
Thiruvarur-610 101

Education Qualification

Institution	Degree	Year	Specialization
Periyar Maniyammai College, Vallam	B.E.	1993-1997	Computer Science
Sastra University, Thanjavur	M.Tech	2001-2002	Advanced Computing
National Institute of Technology Tiruchirappalli.	Ph.D.	2008-2014.	Text Summarization

Her current area of research is focused on Abstractive Text summarization, Depression Detection, Automatic Question Answer Generation and Abusive language identification.

Employment details

Name of the Post	Employer	Period of Employment	
		From	To
Assistant Professor (7000)	Central University of Tamil Nadu	July 2020	Till date
Assistant Professor (6000)	Central University of Tamil Nadu	July 2016	July 2020

Temporary Faculty	National Institute of Technology, Trichy	Aug 2015	July 2016
Temporary Faculty	National Institute of Technology, Trichy	Aug 2014	July 2015
Temporary Faculty	National Institute of Technology, Trichy	July 2013	June 2014
Sr.Lecturer	Arunai Engineering College	June 2004	Nov 2006
Sr.Lecturer	Sri Balaji Chokalingam Engg college	July 2003	June 2004
Lecturer	Sudharshan Engg College	Dec 2002	July 2003
Lecturer	JJCET	June 1998	June 2000

- 2016 (Jan- June 2016): Guest faculty, IIT Srirangam, Trichy handled Enterprise Software Architecture and design Theory and Lab.

Other Experience and Membership

- Member of Board of Studies, Department of Computer Science CUTN.
- Member, student grievance committee, CUTN
- Member in Convocation Committee (Reception)
- Department Timetable Coordinator
- Department Project Coordinator
- Department Admission Committee Member
- Department MOOCs coordinator
- Coordinated an in-house project “**Thesis tracking software**” developed by “Kalaiyaran, Sai kumar and Kurias Jose”-(MSc 2022 batch)
- Developed **ICT based Demo for Laboratory Session** (DBMS Lab)<https://classroom.google.com/c/MjMwNDA0OTYzNTAx?cjc=zh26g4g>
- Developed **Assistive Native Language voice over PPT for slow learners** (Computer Networks Theory) https://drive.google.com/file/d/1wr4th3UP3J_wRpRylzs84Dxow8gm-yNb/view?usp=sharing
- Acted as a Session Chair in International Conferences on Frontiers in Engineering Applied Science and Technology (FEAST 2017) at NIT Trichy, Computer Applications Department.
- Acted as session chair in “Road traffic injury and Public health importance” Paper presentation at CUTN.
- Created an OER for a module in Data Science at Manipal Institute of Technology
- Acted as External Examiner for B.Tech. Project Viva at NIT Karaikkal, 2017
- BOS member computer science department, ADM college(2017-2019)
- Research Advisory Committee Member, VIT Vellore.
- Member in Selection Committee for Faculty Recruitment at VIT Vellore
- Research Advisory Committee Member, SRM University Chennai.
- Acted as Session chair in SPELLL 2022 conference - Paper Presentation
- Tutorial Committee coordinator in SPELLL 2022 & 2023 conference
- Advisory Committee member in CICCEN 2021 conference, Trichy

- Chaired a session in National Level Technical Symposium “TECHNOFRENZY 2022” at Rabiammal college
- Acted as Question paper setter for Preliminary selection at NIT-Trichy, Tamil University, CUTN.
- Life Member, Indian Society of Technical Education (ISTE).
- Received Best Lecturer Award from Arunai Engineering College for the year 2000-2001 & 2004-2005

Publication (2022-2023)

1. Revanth Reddy Pingala, Nandhini K "Effect of Emojis in Classifying Telugu Code Mixed Movie Reviews". in 3rd International Conference on “Mathematical Modeling & Computational Science-ICMMCS’23”, during 24th Feb 2023 at Mother Teresa Women’s University, Madurai.
2. Anisha T, Nandhini K and Munawar K V “Sentiment Analysis in code mixed Tamil movie reviews Naive Bayes and Decision Tree “in The Role of Computational Intelligence in Emerging Research Innovations at Annamalai University during 10th March 2023.
(Received BEST Paper award)
3. Nivedhita, Nandhini K “Sentimental analysis using NLP for Dravidian Languages “in 8th National Conference NCICT’23, *REBOrN at Dr. M.G.R. Educational and Research Institute, Chennai during 4/4/2023.
4. Pratham Yadhav, Nandhini K “Automatic Pneumonia Detection using Deep Learning Technique” in National Conference on Emerging Trends in Computer Science and Technology at Swami Dyananda Saraswathi college, Tiruvarur during 20th – 21st April 2023.
5. Senthilkumar P and Nandhini K, “Distractor Generation for Multiple choice Questions using Hybrid Approaches” in National Conference on Emerging Trends in Computer Science and Technology at Swami Dyananda Saraswathi college, Tiruvarur during 20th – 21st April 2023.
6. Senthilkumar P and Nandhini K. Comprehensive Analysis of Automatic Question Generation and Bloom's Taxonomy - Mapping Techniques, International Conference on Recent Trends in Computer Sciences - RTCS 2023, pp.11, March 2023. ISBN : 978-81-955309-5-3.
7. Senthilkumar P and Nandhini K. Automatic Question Generation using Centrality-based Keyword Extraction Approach for Tamil Text, Tamil Internet Conference 2022, Vol 21, pp. 63–70, December 2022. ISSN: 2313-4887.
8. Senthilkumar P and Nandhini K. Comprehensive Analysis of Automatic Question Generation and Bloom's Taxonomy - Mapping Techniques, International Conference on Recent Trends in Computer Sciences - RTCS 2023, pp.11, March 2023. ISBN : 978-81-955309-5-3.
9. Janardhan, N., & Nandhini, K., Predictive Modeling of Depression Disorder with Acoustic Characteristics of Speech Using Machine Learning Models at International Conference on

Emerging Technologies (ICET-2022), Sept 16-17, 2022, Organized by Royal College of Engineering and Technology, Kerala. (**Received BEST paper award**)

10. Janardhan, N., & Nandhini, K., Major Depressive Disorder Prediction in Adolescent Students' Community Based on Their Speech Recordings Using Machine Learning Techniques. International Conference on Emerging Technologies (ICET-2022), Sept 16-17,2022, Organized by Royal College of Engineering and Technology, Kerala.
11. Deekshitha & K.Nandhini, Legal Document Summarization using Hybrid Model, **Book chapter** in Natural Language Processing and Information Retrieval Principles and Applications Edited By Muskan Garg, Sandeep Kumar, (Accepted) 9781003244332 CRC Press (NLPIR2021)

Peer –Reviewed Publications

1. Janardhan, N & Nandhini, K. (2022). Major depressive disorder detection in polytechnic college students: A minimal acoustic-features-based solution with reading and free form-speech recording tasks. International Journal of Health Sciences, 6(S1). <https://doi.org/10.53730/ijhs.v6nS1.6596> (**Scopus**) •
2. Janardhan, N., Nandhini, K. (2022). Improving depression prediction accuracy using fisher score-based feature selection and dynamic ensemble selection approach based on acoustic features of speech. Traitement du Signal, Vol. 39, No. 1, pp. 87-107. <https://doi.org/10.18280/ts.390109> (**SCI-E**) •
3. Janardhan, N., & Nandhini, K. (2022). Enhancing the Early Prediction of Depression among the Adolescent Students Using Dynamic Ensemble Selection of Classifiers Approach Based on Speech Recordings, International Journal of Early Childhood Special Education (INT-JECSE), Vol. 14, Spl. Issue 02, PP. 1–21, <https://doi.org/10.9756/INT-JECSE/V14S2.1> (**Scopus & Web of Science**)
4. Deekshitha & K.Nandhini "Abstractive summarization using Transformer Model" at the International E-Conference on "Innovations in Information Technology" on 29th August 2020 organized by Department of Information Technology, Bharathiyar University,
5. Venkateswarlu Bonta, Nandhini Kumares, N. Janardhan, "A Comprehensive Study on Lexicon Based Approaches for Sentiment Analysis" Asian Journal of Computer Science and Technology ISSN: 2249-0701 Vol.8 No.S2,(2019): 1-6.
6. Janardhan, N., & Nandhini, K. Wireless Sensor and Actuator Networks (WSANs): Insights and Scope of Research. International Journal of Innovative Technology and Exploring Engineering (IJITEE) ISSN: 2278-3075, Volume-8 Issue-11, September 2019.
7. Nandhini, K., and S. R. Balasundaram. "Improving readability through extractive summarization for learners with reading difficulties." *Egyptian Informatics Journal* 14.3 (2013): 195-204. **(SCIE)**
8. Nandhini, Kumares, and Sadhu Ramakrishnan Balasundaram. "Use of genetic algorithm for cohesive summary extraction to assist reading difficulties." *Applied Computational Intelligence and Soft Computing* 2013 (2013): 8.
9. Nandhini, Kumares, and Sadhu Ramakrishnan Balasundaram. "Extracting easy to understand summary using differential evolution algorithm." *Swarm and Evolutionary Computation* 16 (2014): 19-27.**(SCIE)**

10. Nandhini, Kumaresh, and Sadhu Ramakrishnan Balasundaram. "Improving readability of dyslexic learners through document summarization." *2011 IEEE International Conference on Technology for Education*. IEEE, 2011.
11. Nandhini, Kumaresh, and Sadhu Ramakrishnan Balasundaram. "Math word question generation for training the students with learning difficulties." *Proceedings of the International Conference & Workshop on Emerging Trends in Technology*. ACM, 2011.
12. Nandhini, Kumaresh, and Sadhu Ramakrishnan Balasundaram. "Significance of learner dependent features for improving text readability using extractive summarization." *2012 4th International Conference on Intelligent Human Computer Interaction (IHCI)*. IEEE, 2012.
13. Nandhini, K., and S. R. Balasundaram. "Grade level classification of math word problems to improve readability for learning disability." *2012 IEEE International Conference on Technology Enhanced Education (ICTEE)*. IEEE, 2012.
14. Kumaresh, Nandhini, and Balasundaram Sadhu Ramakrishnan. "Graph based single document summarization." *International Conference on Data Engineering and Management*. Springer, Berlin, Heidelberg, 2010.
15. Nandhini, Kumaresh, and Sadhu Ramakrishnan Balasundaram. "Improving Readability through Individualized Summary Extraction, Using Interactive Genetic Algorithm." *Applied Artificial Intelligence* 30.7 (2016): 635-661. **.(SCIE)**
16. Nandhini, Kumaresh, and Sadhu Ramakrishnan Balasundaram. "Extracting and evaluating assistive summary for reading difficulties." *2013 International Conference on Advances in Computing, Communications and Informatics (ICACCI)*. IEEE, 2013.
17. Nandhini, K., and S. R. Balasundaram. "E-Trainer for People with Learning Disabilities." *International Journal of Recent Trends in Engineering* 2.4 (2009): 218.
18. Nandhini, K., and S. R. Balasundaram. "Techniques for generating math word questions for learning disabilities'." *IJCA Proceedings on International Conference and Workshop on Emerging Trends in Technology (ICWET)*. 2011.
19. Nandhini, K., and S. R. Balasundaram. "Individualised training sheet composition of math word problems for learners with reading difficulties using genetic algorithm." *International Journal of Technology Enhanced Learning* 7.2 (2015): 160-177.

Scholar Details

Name of the Scholar	Thesis Title/Area	Status	Year of Completion
K Deekshitha (M191301) (M.Phil)	Legal Document Summarization using Hybrid Model	Completed	2021
Janardhan N (R171301) (Ph.D)	Enhancing the Early Prediction of Depression in Adolescent Students Using Machine Learning Techniques Based on Speech Recordings	Reports Received (Waiting for Final Defense)	

Senthil Kumar P (R191301)	Automatic Question Answer Generation	Ongoing	
Munawwar K V (R211301)	Offensive Language Identification using Code Mixed Data	ongoing	

PG projects Guided

S.No	REG. No.	STUDENT NAME	PROJECT TITLE
1	P161303	Iswarya T	Text Classification Using Machine Learning
2	P161309	Saranya J	Credit Card Fraudulent Prediction
3	P161311	Srimathi S	Automatic Clustering for Multiple Domains
4	P171303	Agila .S	Text Simplification for Corpus Analysis
5	P171305	Arjun .S.B	Simplify the Text Using Wordnet
6	P171309	Venkateswarlu .B	Named Entity Recognizer Using Spacy and Stanford NER
7	P171312	Nehara Chandran.M.K	Text Simplification Using Lexical Analysis
8	P171317	Priya Dharshini .R	Text Classification for Author Gender Identification from Text
9	P181305	Arunkumar.S	Prediction and Diagnosis of Future Diabetes Risk
10	P181311	Kavya.P	Malayalam Script To Manglish Translation Using Machine Language Approach
11	P181312	Manimaran. T	Automatic Question Paper Generator
12	P181313	Munawwar K.V	Movie Genre Prediction Using Text Classification
13	P181320	Yempada Chanukya Reddy	Heart Disease Prediction Using Machine Learning
14	P191306	Bokka Mounika	Sentiment Analysis Using Deep Learning
15	P191313	Kayalvizhi S	Sentiment Analysis Using Machine Learning
16	P201307	Hari Krishna P	Automatic Question & Answer Generator
17	P201309	Juhi Rani	Sentiment Analysis Using Machine Learning
18	P201317	Sangem Vishwa	Fake News Detection Using Machine Learning
19	P201320	Shriram S G	Music Recommendation System Using Real-Time Emotion Detection
20	P211302	T. Anisha	Sentimental Analysis on Code-Mixed Tamil Movie Reviews
21	P211315	Pingala Revanth Reddy	Telugu And Code-Mixed Telugu Text Classification Using XLM-Roberta
22	P211316	Pratham Yadav	Automatic Detection of Pneumonia Using Deep Learning

23	P211313	Niveditha S	Analysis of Sentiment for Manglish Comments Using LSTM
24	P211310	Lavudya Vijetha	Telugu News Data Classification Using Machine Learning Approach

Workshop Organized

- Organized an Outreach Activity “Zenith 2017” at CUTN on 24th March 2017.
- Acted as a Coordinator in a five-day workshop on DSPACE During 20th March-24th March 2017.
- Acted as a Coordinator in Two Days Workshop on IoT , 05th April, 2018 & 06th April, 2018,
- Acted as a Coordinator in one-day workshop on Orientation to Research Fundamentals and innovations in Computer Science at CUTN, 24th Feb 2018

Workshop Attended (More than 5 days)

Sl. No.	Title of the Conference / Seminar / Workshop	Month/Year	Venue	Sponsoring Authority
1	ISTE Workshop on Computer Programming (2 Weeks)	June 2014	NITT-IITB	MHRD
2	ISTE Workshop on Design of Algorithms (2 Weeks)	May 2015	NITT-IITKGP	MHRD
3	AICTE four Weeks FDP on Use of ICT in Education for Online and Blended Learning	02-05-2016 to 10-07-2016	NITT_IITB	MHRD
4	Five days workshop on ‘Training of Trainers in Life Skills’	27 th Feb-3 rd March 2017	NITT	RGNIYD
5	28 days Orientation Program	17-08-2017 to 07-09-2017	Bharathidasan University	UGC
6	short term course on Analytics	19-01-2017 to 22-01-2017	NITT	Self
7	5 days FDP on AI using Machine Learning and Deep Learning	26 th Nov, 2018 to 30 th Nov, 2018	NITT	5 days
8	Five days workshop on “Cloud and Edge computing for Big data Analytics”	Dec 16-20 2019	NITT	5 days

9	Refresher program UGC – HRDC	13.02.2019-05.03.2019 (21 days)	Bharathiyar University, Coimbatore	self
10	Refresher program UGC-HRDC	22.09.2021 - 05.10.2021 (14 days)	Bharathidasan University	Self

INVITED TALK:

1. Delivered a Guest Lecture on the topic “Digital Initiatives in Higher Education” in JAMAL MOHAMED COLLEGE (Autonomous), Tiruchirappalli on 30th November 2017.
2. Delivered a Guest Lecture on the topic “Database design using Normalization” in one week short term course on “Advanced Concepts in Database and Data Analytics” at National Institute of Technology, Tiruchirappalli on 6th November 2017.
3. Delivered a Guest Lecture on the topic “Meta heuristic Algorithms for Data Analytics” in one week short term course on “Advanced Concepts in Database and Data Analytics” at National Institute of Technology, Tiruchirappalli on 10th November 2017.
4. Delivered a lecture on the topic “E-Learning Tools in Digital India” in the One day workshop on Digital India Initiatives organized by Department of Computer Science, Central University of Tamil Nadu, Thiruvarur – 05 on 07.10.2017
5. Delivered a talk on the topic “Plagiarism in Research” in the One day National Workshop on Orientation to Research Fundamentals & Recent Innovations in Computer Science in Central University of Tamil Nadu, Thiruvarur on 24th February 2018.
6. Delivered a Guest Lecture on the topic “Use of Genetic Algorithm in Data Mining” in one week FDP on “Data Warehousing & Data Mining” at Ramakrishna College of Engineering, Tiruchirappalli on 9th December 2017.
7. Delivered a Guest lecture on “Thesis Writing and Plagiarism” in One-day workshop at IDAYA College, Kumbakonam on 6th Sep’18.
8. Delivered a Guest Lecture on the topic “Text Summarization” in Two days workshop at NIT, Tiruchirappalli on 14th & 15th December’18.
9. Delivered a Guest Lecture on “Recording Lecture using Screen O Cast Matic” in 1 week workshop at Tamil University on March 25th 2019.
10. Delivered a Guest Lecture on “Basics of Natural Language Processing” at SASTRA university, Kumbakonam on 21st September’19.
11. Delivered a session on “Deep Learning Perspective on Text Summarization” at Webinar - 5 Days FDP on Deep learning by Raja Rejeswari Engineering College, Bangalore on 9th June 2020.
12. Delivered a Talk on “Text Summarization using machine learning and Deep learning” at Webinar by Dr.Umayal Ramanathan College For Women on 10th June 2020
13. Delivered a Talk on “Text Representation techniques” at Five day International workshop on Disruptive technologies in smart computing for today and tomorrow at CUTN Webinar on 7-11 September 2020.

14. Delivered a Talk on “Insight into Summarization techniques and its applications” at ATAL FDP on Language and Vision at NIT AP on 2-2-2021.
15. Delivered a Talk on “Fundamental of Text Summarization” at Artificial Intelligence and Machine Learning Techniques for Data Analytics at NIT-Trichy during 15th -19th February 2021.
16. Delivered a Talk on “Naïve Bayes and K-Nearest Neighbor Algorithms” at Machine Learning Concepts and Applications at NIT-Trichy during 19-23rd April 2021.
17. Delivered a Talk on “Text Classification Using Machine Learning Techniques” at Refresher Course in computer science at Bharathiyar University during 15th November 2021.
18. Delivered a Talk on “NLP for Education” at ATAL FDP on Artificial Intelligence in Teaching & Learning, CUTN during 23rd November 2021.
19. Delivered a Talk on “Text processing using ML” at FDP on Machine Learning and Deep Learning for Real Time Applications during 6-10th December 2021.
20. Delivered a Talk on “Analysing Big data with Twitter” at Anna University FDP on Big Data Analytics during 15-22nd December 2021.
21. Delivered a talk on “Introduction to Text classification” at JJ college Puthukottai during 1st April 2022.
22. Delivered a talk on “Genetic Algorithm & Hypothesis Search Space” at Anna University Tirunelveli FDP on Machine Learning Techniques during 4th July to 8th July 2022.
23. Delivered a talk on “Text Classification” at Rabiammal Ahamed Maideen College for women, Tiruvarur during 16th September 2022.
24. Delivered a talk on “Goal and scope of Projects” at Bishop Heber College, Trichy during 5th December 2022.
25. Delivered a talk on “Natural language processing applications using Machine learning” at Five days Virtual FDP on Emerging Trends in Machine Learning and Deep Learning Techniques from 02.01.2023 to 06.01.2023. In Madanapalli Institute of Technology.
26. Delivered a talk on “Recent trends in IT Industries “at Dharmapuram Gnanmbigai Govt Arts College on 6th January 2023.
27. Delivered a talk on “Introduction to NLP in the context of CSS “at National Institute of Technology, Trichy five days’ Workshop on “Introduction to Computational Social Science with Python” on 12th July 2023.
28. Delivered a talk on “Text analysis with nltk- A hands-on approach “at National Institute of Technology, Trichy five days’ Workshop on “Introduction to Computational Social Science with Python” on 14th July 2023
29. Delivered a talk on “Introduction to NoSQL and MongoDB- A hands on approach at CARE college of Engineering and Technology, Trichy at three days’ workshop on “Big data Analytics” 25-07-2023.