

Rizwana Kalllooravi Thandil

Assistant Professor | Research Department of Computer Science | Sullamussalam Science College Areekode | Affiliated to University of Calicut | Kerala | India - 673639

+91 99 464 90920

ktrizwana@sscollege.ac.in

Nekkuth (H), Puthur Pallikkal, 673636

Profile

Dr. Rizwana Kalllooravi Thandil is an accomplished academic and assistant professor with over 12 years of teaching experience at Sullamussalam Science College, Areekode. She is a U.G.C. NET-qualified professional (13870065) with expertise in Artificial Intelligence, Speech Signal Processing, and Machine Learning, highlighted by her groundbreaking PhD research on accented speech recognition in Malayalam. Dr. Rizwana has authored numerous Scopus-indexed publications, presented at international conferences, and serves as a reviewer for prestigious journals and conferences. Additionally, she has been appointed as a subject expert for the Ministry of Education's trilingual glossary initiative. Her passion lies in integrating advanced AI methodologies into practical applications and inspiring innovation in the field.

Specialization

Artificial Intelligence, Speech Signal Processing, Language Computing

Research

International Publication: 15
Presentation: 11
eBook Chapter: 8

About

D.O.B: December 30 1983

Work Experience

Assistant Professor – Department of Computer Science, Sullamussalam Science College, September 2012–Present (12 years)

Instruct and guide graduate and post-graduate students in:

- Theory of Computation, Artificial intelligence, Operating Systems, Advanced Database Management Systems, Programming Languages, Data Structures, Digital Electronics, Computer Graphics, and Microprocessors.
- Oversee laboratory activities, create and administer assessments, and contribute to the development and evaluation of curriculum. Active involvement in guiding students on innovative projects and mentoring them in publishing their research in reputable journals and presenting at esteemed conferences.

Skills Summary

- Profound expertise in delivering hands-on education at graduate and post-graduate levels, showcasing exceptional proficiency in managing diverse curricula.
- Recognized for an outstanding ability to teach, inspire, and foster the development of young minds.
- Demonstrates a strong passion for research and teaching, coupled with adept instruction and mentoring skills for students from varied backgrounds.
- Possesses excellent written and oral communication skills, complemented by a remarkable talent for creating compelling presentations and producing high-quality research and documentation.

Education

Ph.D. • University of Calicut (2024)

Cognitive modeling of accented speech in Malayalam: exploring the impact of acoustic signal processing and deep learning techniques.

M.C.A • University of Calicut (2009)

Graded First Class with Honors (75%)

B.Sc. Computer Science, University of Calicut (2004)

Graded First Class (82%)

Class 12th • Board of Higher Education, Kerala (2001)

Graded First Class with Distinction (75%)

S.S.L.C • Board of Higher Education, Kerala (1999)

Graded First Class with Distinction (87%)

Professional Networks

LinkedIn: <https://www.linkedin.com/in/rizwana-ahmed-806727152/>

Research Gate: <https://www.researchgate.net/profile/Rizwana-Kalllooravi-Thandil>

Orchid: <https://orcid.org/0000-0001-9305-681X>

Scopus : <https://www.scopus.com/authid/detail.uri?authorId=57221960139>

Research Experiences

International Journals/Publications

1. “Parallel convolutional neural network and hybrid architectures for accented speech recognition in Malayalam” Rizwana Kallooravi Thandil, Muneer V.K, Premjith B, *Iran J Comput Sci* (2024). <https://doi.org/10.1007/s42044-024-00212-w>
 2. “E2E accent-robust ASR for low-resourced Malayalam language: A feature-based investigation of LSTM-RNN and ML approaches”, Rizwana Kallooravi Thandil, KP Basheer, Muneer Variyam Kandy, 2024/3/25, AIP Conference Proceedings, Volume-2919, Issue-1, <https://doi.org/10.1063/5.0184392>
 3. “Empowering Accented Speech Analysis in Malayalam Through Cutting-Edge Fusion of Self Supervised Learning and Autoencoders”, Rizwana Kallooravi Thandil, Mohamed Basheer KP, Muneer V.K, *International Journal of Intelligent Systems and Applications in Engineering*, 2024, 12(9s), pp. 238–246
 4. “Convolutional Neural Network-Based Automatic Speech Emotion Recognition System for Malayalam”, Muneer V.K, K. P. Mohamed Basheer, Rizwana Kallooravi Thandil, . *Indian Journal of Science and Technology* 16(46): 4410-4420. <https://doi.org/10.17485/IJST/v16i46.2090>
 5. “Natural Language Processing of Malayalam Text for Predicting its Authenticity”, Rizwana Kallooravi Thandil, Mohamed Basheer KP, Muneer V.K, Publisher: SSRN, ELSEVIER, 2021/9/27
 6. “Exploring Deep Spectral And Temporal Feature Representations With Attention-Based Neural Network Architectures For Accented Malayalam Speech-A Low-Resourced Language”, Rizwana Kallooravi Thandil, Mohamed Basheer KP *Eur. Chem. Bull.* 2023, 12(Special Issue 5),4786 – 4795, ELSEVIER.
 7. “Fake News Detection and Prediction Using Machine Learning Algorithms”,Thezniya Naslin, Muneer V.K,Rizwana Kallooravi Thandil & Mohamed Basheer, K.P *International Journal of Computer Science and Information Technologies*, Vol. 12 (3), 2021, 81-85, ISSN:0975-9646.
 8. “Advanced Speech Emotion Recognition in Malayalam Accented Speech: Analyzing Unsupervised and Supervised Approaches”, Rizwana Kallooravi Thandil, P. V. Jalala, Rahbar Zahid & M. Preethi, *Artificial Intelligence and Speech Technology. AIST 2023. Communications in Computer and Information Science*, vol 2267. Springer, Cham. https://doi.org/10.1007/978-3-031-75164-6_34
 9. “End-to-End Unified Accented Acoustic Model for Malayalam-A Low Resourced Language”, Rizwana Kallooravi Thandil, K. P. Mohamed Basheer & V. K. Muneer, *Speech and Language Technologies for Low-Resource Languages . SPELL 2022. Communications in Computer and Information Science*, vol 1802. Springer, Cham. https://doi.org/10.1007/978-3-031-33231-9_25
 10. “Analysis of Influential Features with Spectral Features for Modeling Dialectal Variation in Malayalam Speech Using Deep Neural Networks”, Rizwana Kallooravi Thandil, Mohamed Basheer, K.P. (2023). *Lecture Notes in Networks and Systems*, vol 572. Springer, Singapore. https://doi.org/10.1007/978-981-19-7615-5_46.
 11. “Deep Spectral Feature Representations Via Attention-Based Neural Network Architectures for Accented Malayalam Speech—A Low-Resourced Language”, Rizwana Kallooravi Thandil, Mohamed Basheer, K.P., Muneer, V.K. (2023), *Lecture Notes in Networks and Systems*, vol 788. Springer, Singapore. https://doi.org/10.1007/978-981-99-6553-3_1
 12. “Speaker Independent Accent Based Speech Recognition for Malayalam Isolated Words: An LSTM-RNN Approach”, Rizwana Kallooravi Thandil, KP Basheer, (2022). *Communications in Computer and Information Science*, vol 1546. Springer, Cham. https://doi.org/10.1007/978-3-030-95711-7_2
 13. “A hybrid cardiovascular disease prediction system using machine learning algorithms”, eBook ISBN 9781003150664, Publication Partner:CRC Press Taylor and Francis,2021 ,<https://www.taylorfrancis.com/chapters/edit/10.1201/9781003150664-53/>, https://books.google.co.in/books?hl=en&lr=&id=Kwo1EAAAQBAJ&oi=fnd&pg=PT450&ots=8BsdImg5e5&sig=HpH-odzGSNqfLc40MIthg_qnbAk&redir_esc=y#v=onepage&q&f=false
 14. “Qualitative Prediction and Recognition of Ongoing Human Action Sequences Using Deep Neural Networks”, Muneer V.K, Rizwana Kallooravi Thandil and K. P. Mohamed Basheer, *Proceedings of the Third International Conference on Intelligent Sustainable Systems [ICISS 2020] IEEE Xplore Part Number: CFP20M19-ART; ISBN: 978-1-7281-7089-3, DOI: 10.1109/ICISS49785.2020.9315962*
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15. "Environment Sound Recognition Systems-A Case Study," Jayashree Nair, Rizwana Kallooravi Thandil, Gouri S, Praveena PS ,2023 8th International Conference on Communication and Electronics Systems (ICCES), Coimbatore, India, 2023, pp. 1489-1494, doi: 10.1109/ICCES57224.2023.10192698
 16. "A Multi-feature Analysis of Accented Multisyllabic Malayalam Words—a Low-Resourced Language", Rizwana Kallooravi Thandil, K. P. Mohamed Basheer & V. K. Muneer ,Lecture Notes in Networks and Systems, vol 660. Springer, Singapore. https://doi.org/10.1007/978-981-99-1203-2_21
 17. "End-to-End Multi-dialect Malayalam Speech Recognition Using Deep-CNN, LSTM-RNN, and Machine Learning Approaches", Rizwana Kallooravi Thandil, K. P. Mohamed Basheer & V. K. Muneer, 2022. Lecture Notes on Data Engineering and Communications Technologies, vol 163. Springer, Singapore. https://doi.org/10.1007/978-981-99-0609-3_3
 18. "Utilizing BiLSTM For Fine-Grained Aspect-Based Travel Recommendations Using Travel Reviews In Low Resourced Language", V. K. Muneer, K. P. Mohamed Basheer, Rizwana Kallooravi Thandil,2024, Journal of Electrical Sysems Vol. 20 No. 2s (2024),<https://doi.org/10.52783/jes.1133>
 19. "Enhanced object detection in videos using bio vision", Rizwana Kallooravi Thandil and Umira Parvi KP, World Journal of Advanced Research and Reviews, 2024, 24(01), 1720–1727, <https://doi.org/10.30574/wjarr.2024.24.1.3121>
 20. "Enhancing Emotion Classification in Malayalam Accented Speech: An In-Depth Clustering Approach", Journal of Advanced Zoology, Rizwana Kallooravi Thandil, Mohamed Basheer K.P, Vol. 44 No. 5 (2023), <https://doi.org/10.53555/jaz.v44i5.2894>
 21. "Online Malayalam Script Assortment and Preprocessing for Building Recommender Systems", V. K. Muneer, K. P. Mohamed Basheer, Rizwana Kallooravi Thandil & Abdul Muhaimin Smart Intelligent Computing and Applications, Volume 1. Smart Innovation, Systems and Technologies, vol 282. Springer, Singapore. https://doi.org/10.1007/978-981-16-9669-5_5
 22. "Security and Privacy in Vehicular Ad Hoc Network (VANET): A Survey" Rizwana Kallooravi Thandil, International Journal of Computer Applications (0975 – 8887), National Conference on Advances in Computing Communication and Application (ACCA-2015), ISBN: 973-93-80886-33-3, ISSN:0975-8887.
 23. "Automatic Speech Recognition System for Utterances In Malayalam Language" Rizwana Kallooravi Thandil, Dr. Muhamed Basheer KP, Rababa Kareem Kollathodi, Malaya Journal of Matematik, Vol. S, No. 1, 560-565, 2019., <https://doi.org/10.26637/MJMoS01/0079>.
 24. "Accent Based Speech Recognition: A Critical Overview ", Rizwana Kallooravi Thandil and K. P. Mohamed Basheer, Malaya Journal of Matematik, Vol. 8, No. 4, 1743-1750, 2020, <https://doi.org/10.26637/MJMo804/0070>
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International/National Conferences

Papers Presented

1. "Stock Market Prediction Using LSTM Networks" presented at The International Conference on Business and Technology (ICBTOxford' 2024) at the University of Oxford, Oxford, UK on November 21-22, 2024.
 2. "Deep Spectral Feature Representations via Attention Based Neural Network Architectures for Accented Malayalam Speech - A Low-Resourced language", presented at the 4th International Conference on Data Analytics and Management (ICDAM-2023), organized jointly by London Metropolitan University, London, UK in association with the Karkonosze University of Applied Sciences, Jelenia Gora, Poland, Europe, Politécnico de Portalegre, Portugal, Europe and BPIT, GGSIPU, Delhi on 23rd – 24th June 2023.
 3. "A Multi-Feature Analysis of Accented Multi-Syllabic Malayalam Words-a Low-Resourced Language ",4th International Conference on Advances in Distributed Computing and Machine Learning(ICADCML-2023), Organized by the Department of Computer Science and Engineering, NIT Rourkela, Odisha, held on 15th – 16th January 2023
 4. "End-to-End Unified Accented Acoustic Model for Malayalam – a Low Resourced Language", SPELL 2022, Organized by the Department of Computer Science and Engineering, SSN College of Engineering, held on November 23-25 2022.
 5. "E2E Accent-Robust ASR for Low Resourced Malayalam Language: A Feature-Based Investigation of LSTM-RNN and ML Approaches" presented at the International Conference on Computing and Communication Networks (ICCCN-2022) jointly organized by Manchester Metropolitan University, Manchester, United Kingdom & UNIVERSAL INOVATORS on 19th -20th November 2022.
 6. "End-to-end Multi-Dialect Malayalam Speech Recognition Using Deep-CNN, LSTM-RNN and Machine Learning approaches" in the 5th International Conference on Computational Intelligence & Data Engineering (ICCIDE - 2022) in
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association with Springer organized by the School of Computer Science and Engineering (SCOPE), VIT-AP University, Amaravati, Andhra Pradesh, India, during 12-13 August 2022.

7. “Analysis of Influential Features with Spectral Features for Modeling Dialectal Variation in Malayalam Speech using Deep Neural Networks”, Rizwana Kallooravi Thandil, KP Mohamed Basheer ,3rd International Conference on Data Analytics and Management (ICDAM-2022), organized jointly by The Karkonosze University of Applied Sciences, Poland in association with the University of Craiova Romania, Warsaw University of Life Sciences Poland and Tun Hussein Onn University Malaysia on 25th – 26th June 2022
8. “Qualitative Prediction and Recognition’s of Ongoing Human Action Sequences Using Deep Neural Networks”, Muneer V.K, Rizwana Kallooravi Thandil, Mohamed Basheer K.P, 3rd International Conference on Intelligent Sustainable Systems ICISS2020, 3-5 December 2020. Publication Partner - IEEE
9. “A Hybrid Cardiovascular Disease Prediction System Using Machine Learning Algorithms”, V. K. Muneer, N. Ramseena, Rizwana Kallooravi Thandil, K. P. Mohamed Basheer 2nd International Conference on Artificial Intelligence and Speech Technology, IGDTUW Delhi, 20 November 2020. Publication Partner - Taylor and Francis.
10. Automatic Speech Recognition System for Utterances in Malayalam Language, MESMAC International Conference at MES College, Mampad, 17 January 2019.
11. Integrating Memory Management with Non-Volatile Random-Access Memory and the Operating System Implications -An Analysis Advances in Computing, Communication and Application ACCA’13 on 20,21 November 2013.

Invited Talks / Subject Expert

Reviewer:

1. 12th International Conference on Advanced Computing (ICoAC 2023) held during 18th-19th August 2023, organized by the Department of Computer Technology annually in association with IEEE Madras Section.
2. 6th International Conference on Advances in Distributed Computing and Machine Learning (ICADCML)-2025 organized by the Department of Computer Science and Information Engineering, National Taiwan University of Science and Technology (NTUST), Taiwan, January 9-10, 2025.
3. Neurocomputing, Elsevier on August and October 2024.
4. Language Resources and Evaluation, Springer Nature, October 2024
5. Computational Economics, Springer Nature, November 2024
6. American Journal of Information Science and Technology (AJIST)

Invited Talk:

1. “Generative AI 2.0” at Amal College of Advanced Studies Nilambur on 20th November 2024.
2. “Machine Learning and Blockchain for a Smart Society” at Providence Women’s College Kozhikode on January 5th 2023.
3. “AI in the Real World-Practical Insights and Case Studies” at AlShifa College of Arts and Science on 15th September 2023.
4. Two-day workshop on Artificial Intelligence organized by KGPTC Kozhikode in association with Kerala Startup Mission dated 7/02/2020 and 10/02/2020.
5. Cyber Crime at Jamia Nadwiyya Arts and Science College, Edavanna on 9/12/2016.

Conference Chair:

1. The International Conference on Business and Technology (ICBTOxford’ 2024), University of Oxford, Oxford, UK on 21/11/2024 – 22/11/2024.
 2. Advances in Computing, Communication and Application ACCA’13 on 20,21 November 2013.
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Subject Matter:

1. Subject expert of the Experts Committee of Glossary of Engineering (English—Hindi- Malayalam) organized by the Commission for Scientific and Technical Terminology(C.S.T.T.) D/o Higher Education, Ministry of Education. , Govt. of India, New Delhi.
2. Subject Matter Expert in the interview panel for the Higher Secondary Teacher (Contract) post at Karunya Bhavan Higher Secondary School for Deaf, Vazhakkad.

Participation and Engagements

1. Winter School on Applications of Large Language Models organized by Amrita School of Artificial Intelligence, Amrita Vidyapeetham, Coimbatore from 8th – 13th January 2024.
2. IISc Funded AI-MPOWER: EMPOWERING EDUCATORS FOR THE DATA-DRIVEN FUTURE, a 3-day offline workshop offered by the Department of Computational and Data Sciences at IISc Bangalore in collaboration with Zenteiq Edtech from November 6th to November 8th, 2023.
3. Short-term course in model-based problem solving, offered by Prof.Dr.Habil, Peter Struss, Technical University, Munich, Germany by the School of Computer Science and Engineering, Vellore Institute of Technology, Chennai, December 10 -15 2022
4. Summer school 2022 and winter school 2023 organized by ICFOSS, Trivandrum on the theme Natural Language Processing and Unstructured Data Analytics
5. Summer School for Women on Unstructured Data Analytics and Natural Language Processing organized by ICFOSS in association with Kerala State IT mission held from 4th to 17th May 2022 at Thiruvananthapuram.
6. Week-long e-Faculty Development Programme on Cloud Computing conducted by HRDC, University of Kashmir. 20th-25th July 2020.
7. Week-long Faculty Development Programme cum Workshop on Artificial Intelligence and Speech Technology conducted by Indira Gandhi Delhi Technical University in association with IBM, Delhi,17 - 21 August 2020.
8. Orientation Course (Residential) for NSS Programme Officers at the Training Institution-Rajagiri College of Social Sciences, Kalamassery Campus -18th to 24th January 2016.
9. Winter School for Women on Unstructured Data Analytics and Natural Language Processing organized by ICFOSS in association with Kerala State IT mission held from 6th to 18th January 2020 at Thiruvananthapuram.

Administrative Experiences

1. Coordinator-Internal Complaints Cell, S. S. College 2021- 2023
 2. Coordinator-Grievance Redressal Cell, S. S. College -2021-2024
 3. NSS Program Officer, S. S. College. 2013-2017.
 4. Document controller, Department of Computer Science, S.S. College, Areekode.
 5. Coordinator, Women's Forum, S.S. College Areekode, 2018-2020
 6. Coordinator, Eco Club, S.S. College Areekode. 2018-2020
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Awards and Achievements

1. Best Paper Award for the paper entitled “Speaker Independent Accent Based Speech Recognition for Malayalam Isolated Words: An LSTM-RNN Approach” at 3rd International Conference on Artificial Intelligence and Speech Technology (AIST-2021) Organised by Indira Gandhi Delhi Technical University for Women (IGTUW), Delhi held on 12th – 13th November 2021
2. Best in Project Presentation Award for the project entitled “Environmental Sound Recognition System using ML and DL Models” as part of the summer school on Applied NLP and Unstructured Data Analytics, Organised by the International Centre for Free and Open Source Software(ICFOSS) in Association with Kerala State IT Mission (KSITM) held from 4th May to 17th May 2022 at Thiruvananthapuram.

Workshops Organized/ Attended

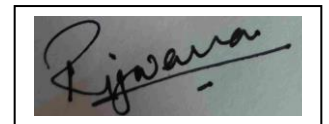
1. Organized a four-day life skill development programme for the girl students of the college at Kayyeni, in Attappadi from 7th January 2017 to 10th January 2017.
2. Organized a two-day workshop on Foundation Skills on Entrepreneurship supported by the ICT Academy of Kerala and Kerala Startup Mission on 9th and 10th August 2018.
3. Organized a 3-day photography workshop for girl students PICTHER from 7th to 9th September 2018 in association with the women’s forum of the college.
4. Organized a blood donation camp on 20th October 2016 in collaboration with Manjeri Medical College Blood Bank and care Kerala blood donor’s forum.
5. Organized a hands-on National level Workshop on Robotics-Robodays. 11th and 12th of January 2019.
6. Organized a Five-day Residential Eco Restoration programme at Muthanga Wildlife Sanctuary in Association with Kerala Wildlife and Forest Department.
7. Attended a Two-day National workshop on Research Methods in Network Scenario conducted by PG Department of Computer Science, SS College. 18-19 December 2017.
8. Attended a NAAC-sponsored two-day National Conference on Quality Higher Education in the Era of Open Online Education conducted by IQAC SS College from 6-7 December 2016.

Disclaimer

I hereby declare that all the above information is correct and accurate to the best of my knowledge.

Areekode

November 25, 2024



Rizwana Kallooravi Thandil