

CONTACT INFORMATION	Koottappoovathinkal House Karamala P.O, Poovakulam Kottayam - 686662, India	Phone: +91 9895327107 E-mail: sunsks@gmail.com
RESEARCH INTERESTS	Formal Language and Automata Theory, Computational Complexity, Theoretical aspects of Machine Learning, Cyber Physical Systems.	
EDUCATION	<ul style="list-style-type: none"> • Doctor of Philosophy (PhD) July 2017 <ul style="list-style-type: none"> • University: IIT Madras, Chennai, India. • Area: Automata and Complexity Theory • Thesis Title: Space Complexity of Labelled Graph Reachability Problems - New Characterizations and Dichotomies. • Adviser: Dr.Jayalal Sarma M N • Master of Technology in Computer Science & Engg. May 2011 <ul style="list-style-type: none"> • University: IIT Madras, Chennai, India. • Thesis Title: Tree Insertion Systems. • Adviser: Prof.(Dr.) Kamala Krithivasan • Bachelor of Technology in Computer Science & Engg. June 2006 <ul style="list-style-type: none"> • Institution: Mangalam College of Engineering, Ettumanoor, Kerala. • University: Mahatma Gandhi University, Kottayam, Kerala • Higher Secondary Examination (+2) May 2002 <ul style="list-style-type: none"> • Institution: SNDP Higher Secondary School, Muvattupuzha, Kerala. • S.S.L.C May 2000 <ul style="list-style-type: none"> • Institution: High School, Koothattukulam, Kerala. 	
PROFESSIONAL EXPERIENCES	<ul style="list-style-type: none"> • Asst.Professor in the Department of Computer Science and Engineering, Government Engineering College Idukki, Kerala March 2020- till date • Lecturer in the Department of Computer Engineering, Government Polytechnic College, Pala, Kottayam, Kerala Nov 2015 - March 2020 • Asst.Professor in the Department of Computer Science and Engineering, Amal Jyothi College of Engineering, Kanjirappally, Kerala May 2011 - Dec 2011 • Lecturer in the Department of Computer Science and Engineering, Amal Jyothi College of Engineering, Kanjirappally, Kerala Feb 2007 - Aug 2009 • Lecturer in the Department of Computer Science and Engineering, Mangalam College of Engineering, Ettumanoor, Kerala July 2006 - Feb 2007 	
PUBLICATIONS	<ul style="list-style-type: none"> • Journal Publications <ul style="list-style-type: none"> • G. L. Praveen, K. S. Sunil Towards the Recognition of Restricted Linear Languages. Algorithms for Intelligent Systems” • K. S. Sunil and P. Sunilkumar. <i>Answer Book Valuation Using Semantic Similarity</i>. IOP Conference Series: Materials Science and Engineering. 1081(2021) 012018. DOI:10.1088/1757-899X/1085/1/012018 • Vidhya Ramaswamy, Jayalal Sarma and K.S. Sunil. <i>Space Complexity of Reachability Testing in Labelled Graphs</i>. Journal of Computer and System Sciences. 2019 • Balagopal Komarath, Jayalal Sarma and K.S. Sunil. <i>Comparator Circuits over Finite Bounded Posets</i>. Information and Computation. 261 (2018) 160-174 • Balagopal Komarath, Jayalal Sarma and K.S. Sunil. <i>On the Complexity of L-Reachability</i>. Fundamenta Informaticae. 145 (2016) 471-483 	

- **International Conferences**

- **K. S. Sunil**, Pradeep Chandran. Towards Robust Anomaly Detection in Cyber-Physical Systems: Approaches, Challenges, and Future Directions. *2025 8th IEEE International Conference on Computational Intelligence in Data Science (ICCIDS 2025)*.
- **K. S. Sunil**, Adithyan P, Anjana Krishnan, Hashim Sharaf C. P, Jerin Paul, Salvi Hanna John SafeSync: A Comprehensive Safety and Monitoring System for Two-Wheeler Users Using Machine Learning, ESP32, GPS, and GSM. *2024 IEEE Recent Advances in Intelligent Computational Systems (RAICS)*.
- **K. S. Sunil**, Alan Biju, Aiswarya, Arun G, Prince V Joy, R Rathul Krishnan DriveQ: A Dedicated Vehicle-to-Vehicle Communication System for Enhancing Road Safety and Traffic Management. *2024 IEEE International Conference on E-mobility, Power Control and Smart Systems (ICEMPS)*.
- G. L. Praveen, **K. S. Sunil** On the Complexity Aspects of Various Sub-classes of Linear Languages. *2024 9th IEEE International Conference for Convergence in Technology (I2CT)*.
- **K. S. Sunil**, Avinash K B, Diljith P A, Hafis Muhammed T K, Midhun Nirmal Rubbish Revolution: A Smart Solution for Effective Plastic Waste Management and Collaborative User Engagement in Responsible Disposal. *2024 3rd IEEE International Conference for Innovation in Technology (INOCON)*.
- G. L. Praveen, **K. S. Sunil** Towards the Recognition of Restricted Linear Languages. *2024 International Conference on Theoretical and Applied Computing (ICTC)*.
- Julien Joseph Thomas, Vishnu Suresh, Muhammed Anas, Sayu Sajeev, and **K. S. Sunil** Artificial Level Language: A Library of Computing Engine for Natural Languages. *5th IEEE International Conference on Control, Communication and Computing (ICCC 2023) May 19-21, 2023*.
DOI:10.1109/ICCC57789.2023.10165200
- Jija J. S, Merin Seferin, Athulya Shaji, S. Sivani, and **K.S. Sunil** On the Complexity aspects of the Sub-classes of Context Free Languages” has been accepted for oral presentation at the *9th International Conference on Mathematics and Computing (ICMC 2023)*. *January 6-8, 2023*.
- Prince V Jose, and **K. S. Sunil** Recent Developments on Cyber-Physical Systems. *2021 IEEE International Conference on Communication, Control and Information Sciences (ICCISc-2021)*. DOI: 10.1109/ICCISc52257.2021.9484983.
- Julien Joseph Thomas, Vishnu Suresh, Muhammed Anas, Sayu Sajeev, and **K. S. Sunil** Programming with Natural Languages: A survey. Lecture Notes on Data Engineering and Communications Technologies series (volume 75). *4th International conference on Computer Networks and Inventive Communication Technologies (ICCNCT 2021)*.
DOI:10.1007/978-981-16-3728-5_57
- **K. S. Sunil** and P. Sunilkumar. *Answer Book Valuation Using Semantic Similarity*. Answer Book Valuation Using Semantic Similarity. *Annual International Conference on Emerging Research Areas on "Computing and Communication Systems for a Fourth Industrial Revolution"(AICERA 2020) 14th-16th December 2020, Kanjirapally, India*
- Vidhya Ramaswamy, Jayalal Sarma, and **K. S. Sunil**. Complexity of Reachability Testing in Labelled Graphs. *11th International Conference on Language and Automata Theory and Applications, LATA 2017, Umea, Sweden, March 6-9, 2017*
- Balagopal Komarath, Jayalal Sarma and **K.S. Sunil**. *Comparator Circuits over Finite Bounded Posets* The 42nd International Colloquium on Automata, Languages, and Programming (ICALP 2015) July 6-10, 2015. Kyoto, Japan.
- Balagopal Komarath, Jayalal Sarma and **K.S. Sunil**. *On the Complexity of L-Reachability* Descriptive Complexity of Formal Systems (DCFS), August-2014, University of Turku, Finland.
- Kamala Krithivasan and **K.S. Sunil** *Tree Insertion Systems*. Foundations of Computer Science-2011. Las Vegas, USA.

ACHIEVEMENTS

- Secured First rank in the examination for the post of Lecturer in Computer Engineering in Technical Education Department (Polytechnics) conducted by Kerala Public Service Commission (Cat. No. 212/2009 - Ranked List No. 180/2015/SSVI).
- Qualified UGC NET (Computer Science and Applications) in 2014.
- Recognized as an outstanding Teaching Assistant in the Department of Computer Science and Engineering at IIT Madras for the courses:
 - CS1100 - Computational Engineering in the semester Jan - May 2013.
 - CS2200 - Languages Machines and Computations in the semester Jan - May 2013.
 - CS6030 - Mathematical Concepts for Computer Science in the semester July - Dec 2012.
 - CS1100 - Computational Engineering in the semester Jan - May 2012.
- Selected as the Best Faculty in Amal Jyothi College of Engineering., Kanjirappally in 2009.
- Selected as the Best Faculty in the Department of Computer Science and Engineering., Amal Jyothi College of Engg., Kanjirappally in 2008.

POSITIONS HELD

- Member
 - Board of Studies KTU Nominee, St. Joseph's College of Engineering and Technology, Palai
 - Reviewer- 2024.
 - Curriculum and Syllabus Design Team KTU, 2024 Scheme.
 - Syllabus vetting committee, Diploma Curriculum Revision 2021.
 - Advisory Board - National Conference on Emerging Computer Applications (NCECA-19)
 - Program Committee - Fifth International Conference on Advances in Computing and Communications (ACC-2015).
- Conference Chair: International Conference on Intelligent Systems organized by Amal Jyothi College of Engineering Kanjirappally, November 2023.
- Reviewer
 - 6th IEEE International Conference on Control, Communication and Computing
 - International Conference on Innovative Trends in Information Technology (2024)
 - International Conference on Control, Communication and Computing (2023)
 - Second International Conference on Next Generation Intelligent Systems (2022)
 - Foundations of Software Technology and Theoretical Computer Science (FSTTCS-2014).
- Single Point of Contact (SPOC) for SWAYAM Courses
 - Government Engineering College, Idukki, 2022 - till date
 - Government Polytechnic College, Pala, 2018-2020
- Branch Counselor, IEEE SBC Government Engineering College Idukki since August 2021.
- Convenor, IEEE international conference ICCISc2021.
- National Knowledge Network Co-ordinator at GEC Idukki.
- Placement and Training co-ordinator at Government Polytechnic College Pala, Kottayam. July 2017 - March 2020
- Spoken Tutorial co-ordinator
 - Government Polytechnic College Pala, Kottayam. July 2017 - March 2020
 - Amal Jyothi College of Engineering, Kanjirappally, Kottayam. July - Dec 2011
- Department Consultative Committee (DCC) PhD representative, Department of Computer Science and Engineering, IIT Madras. July 2014 - July 2015
- Course co-ordinator for the Workshop on Software Development Techniques for Teachers of Engineering and Science Institutes (FOSSEE), organized by IIT Bombay at Amal Jyothi College of Engineering, Kanjirappally, Kottayam. November 5th, 2011 to December 4th, 2011

TALKS GIVEN

- *Automata in Compiler Design* on 09-03-2022 organized by LBS Institute of Technology for Women, Poojappura, Thiruvananthapuram.
- *Research in Theoretical Computer Science: Challenges and Opportunities* on 21-11-2020 organized by SaintGITS College of Engineering, Kottayam, Kerala.
- *Career Guidance and Placement Opportunities* on 29-11-2020, organized by Government Polytechnic College Pala, Kottayam, Kerala.

TRAININGS/WORKSHOPS

ATTENDED

- Successfully completed Two Weeks Faculty Development Programme / Short Term Training Programme on Advanced Pedagogy organised by National Institute of Technical Teachers Training and Research Kolkatta from 2nd December to 13th December, 2024 successfully.
- Successfully completed the Faculty Development Programme (Master Trainers') on " Cyber-Attacks and Defense " conducted by C-DAC, NOIDA from 27 th May, 2024 – 31 st May, 2024 under Cyber Gyan Project, supported by Ministry of Electronics and Information Technology, Government of India.
- Participated in the two weeks Professional Development Programme on Induction Training Programme at National Institute of Technical Teachers Training and Research - Ernakulam (NITTTR-ECK), Kalamasseri from 04/03/2024 to 15/03/2024.
- Successfully completed AICTE Training And Learning (ATAL) Academy Faculty Development Program on Research Applications in Artificial Intelligence and Machine Learning at St. Joseph's College of Engineering and Technology, Palai from 08/01/2024 to 13/01/2024.
- Participated in the One Week National Level Online Faculty Development Program on Cloud Infrastructure from 21/08/2023 to 25/08/2023, Organized by the Government Polytechnic College Sironj. Madhya Pradesh.
- Successfully completed KTU Sponsored Faculty Development Program on Blockchain Technology and Its Application at St. Joseph's College of Engineering and Technology, Palai from 16/01/2023 to 20/01/2023.
- Participated in the online training programme on Recent Trends in Blockchain Technology (Online Course) from 08 November, 2021 to 13 November, 2021, held at Dept. of IT, Government Engineering College Idukki
- Participated and successfully completed the 5-day online FDP on the theme "Inculcating Universal Human Values in Technical Education" organized by All India Council for Technical Education(AICTE) from 27 September, 2021 to 1 October, 2021.
- Participated in the online training programme on Algorithms and Complexity (Online Course) from 13 September, 2021 to 17 September, 2021, held at Dept. of IT, Government Engineering College Idukki organised by the Government Engineering College, Idukki.
- Attended the two weeks Induction Program for newly recruited teachers of Polytechnics at National Institute of Technical Teachers Training and Research - Ernakulam (NITTTR-ECK), Kalamasseri during June 11-23, 2018.
- Attended the 47th Annual National Convention of ISTE at SaintGITS College of Engineering, Kottayam, Kerala, during Jan 27-29, 2018.
- Attended the Special Program for Training Managers of Polytechnics at National Institute of Technical Teachers Training and Research (NITTTR), Chennai during Sept 26-27, 2017.
- Attended Coordinators' Workshop on Software Development Techniques for Teachers of Engineering and Science Institutes at IIT Bombay during Sept 17-18, 2011.
- Attended the Teaching Assistant Training Programme-2012 conducted by the Mission 10X, WIPRO Technologies, Bangalore along with Teaching Learning Centre core team, IIT Madras during Feb 2-4 2012, at IIT Madras.
- Attended a Two-week ISTE workshop on Database Management Systems conducted by IIT Bombay, at NIT Calicut during Dec 13-23 2010.
- Attended the NPTEL Workshop conducted by the National Programme on Technology Enhanced Learning, IIT Madras on July 8 2010 at IIT Madras.