

Basic Details:

- **Name :** Dr.K.ANITHA
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- **Designation:** Assistant Professor- Selection Grade(SG)
- **Phone Number:** - 9941135577
- **Email ID:** - anithak1@srmist.edu.in
- **Area or Subject:** Mathematics.
- **Affiliation:** Department of Mathematics, Ramapuram Campus, SRM Institute of Science and Technology, Chennai-600 089.

Educational Details:

- **Degree** – M.Sc, M.Phil.,Ph.D.,SET
- **Area or Subject** – Mathematics
- **University** – Madurai Kamaraj University, Manonmaniam Sundaranar University
- **Awarded Year** –
Ph.D., in Mathematics, Manonmaniam Sundaranar University, 2016
M.Phil., in Mathematics, Madurai Kamaraj University, 2007.
M.Sc., in Mathematics, Madurai Kamaraj University, 2004.

Other Details:

Courses:

Applied Operations Research, Probability and Random Process, Probability and Queuing Theory, Discrete Mathematics, Statistics for Management, Transforms and Boundary Value Problems, Applied Mathematics for communication Engineers.

Research Interests: Machine Learning Techniques using Mathematical Concepts, Algebraic Number Theory, Rough Graphs, Geometric Function Theory

Funded Project- On going

Multi-omics Covid-19 Unstructured Testing Data-Statistical Analysis using Machine Learning Algorithm- **ICMR- Project ID: 2021-6405, Rs. 6,81,619/- (2021)**

Number of Ph.D Students :

03 (Pursuing)

Anna University: 01

SRM University: 02

Selected Publications:

- Anitha, K., Datta, D. (2023). Fuzzy-Rough Optimization Technique for Breast Cancer Classification. In: Som, T., Ghosh, D., Castillo, O., Petrusel, A., Sahu, D. (eds) Applied Analysis, Optimization and Soft Computing. ICNAAO 2021. Springer Proceedings in Mathematics & Statistics, vol 419. Springer, Singapore
- Anitha, K., Fathima, I. Mumtaj and Vijayalakshmi, A. R.. "Lucas non-Wieferich primes in arithmetic progressions and the abc conjecture" Open Mathematics, vol. 21, no. 1, 2023, pp. 20220563. <https://doi.org/10.1515/math-2022-0563>
- D Kavitha, K Dhanalakshmi, K Anitha, (2023). Toeplitz Determinant For Error Starlike & Error Convex Function. Mathematics and Statistics, 11(2), 345-352. DOI: 10.13189/ms.2023.110214
- R. Nithya, K.Anitha, (2023). Even Vertex ζ -Graceful Labeling on Rough Graph. Mathematics and Statistics, 11(1), 71-77. DOI: 10.13189/ms.2023.110108
- K. Anitha and D. Datta, "Analysing High Dimensional Data using Rough Tolerance Relation," 2022 International Conference on Electrical, Computer, Communications and Mechatronics Engineering (ICECCME), Maldives, Maldives, 2022, pp. 1-5
- K.Anitha, Scaling-Up Redundant Features Using Fuzzy-Rough Data Analysis Techniques (2022), Journal of Northeastern University, Vol.24(4),pp:2642-2657
- S. Sangeetha, K. Anitha (2022), On expansive properties of rough int group action. AIP Conference Proceedings , 2516 (1): 210032. <https://doi.org/10.1063/5.0108637>.

- R.Aruna Devi, K.Anitha (2022). Construction of Rough Graph through Rough Membership Function. *Mathematics and Statistics*, 10(6), 1344-1353.
- R.Nithya, K.Anitha(2022), Extensive types of Graph labelling on Rough Approximations, *Telematique*, Vol.21(1),pp:3251-3261.
- Anitha, K., Aruna Devi, R., Munir, M., & Nisar, K. (2021). Metric dimension of rough graphs. *International Journal of Nonlinear Analysis and Applications*, 12(Special Issue), 1793-1806. doi: 10.22075/ijnaa.2021.5891.
- Nasreen Kausar, M. Munir, Sajida Kousar, M. Gulistan & K. Anitha (2020) Characterization of Non-Associative Ordered Semigroups by the Properties of F-Ideals, *Fuzzy Information and Engineering*, 12:4, 490-508, DOI: 10.1080/16168658.2021.1924513.
- Mohammad Munir, Nasreen Kausar, (WoS), Gunaseelan Mani, Tehreem (2024), Exploring the Algebraic and Topological Properties of Semigroups through their Prime m-Bi Ideals, *Kragujevac Journal of Mathematics*, Vol.48(3), pp:407-421.
- K.Anitha, S.M.Chithra (2021), Rule Extraction from High dimensional data set, *Turkish Journal of Physiotherapy and Rehabilitation*, Vol.32(2).
- S.M.Chithra, K.Anitha(2021),Extending network lift time based on game theory by using wireless sensor networks, *Turkish Journal of Physiotherapy and Rehabilitation*, Vol.32(2).
- Nagabhooshanam, N., Baskar, S., Anitha, K. et al. Sustainable Machining of Hastelloy in EDM Using Nanoparticle-Infused Biodegradable Dielectric Fluid. *Arab J Sci Eng* 46, 11759–11770 (2021). <https://doi.org/10.1007/s13369-021-05652-1>
- Nasreen Kausar, Mohammad Munir, K. Anitha(2020), Left Regular Ordered Ag-Groupoids, *Advanced Mathematical Models & Applications*, Vo.5(3), pp:307-312.
- J. Komathi, K. Anitha, D. Meiyappan(2020), Bimagic Labelling on families of graph in Fuzzy Intuitionistic Space, *Test Engineering & Management*, Vol.83, pp:16313-15317
- K. Anitha and M. Thangeswari, "Rough Set Based Optimization Techniques," 2020 6th International Conference on Advanced Computing and Communication Systems (ICACCS), Coimbatore, India, 2020, pp. 1021-1024, doi: 10.1109/ICACCS48705.2020.9074212.
- K.Anitha (2019), Rough Algebraic Structures in Approximation Space, *Test Engineering & Management*, Vol.83, pp:3848-3851
- K.Anitha, J.Komathi(2019), Study of Fuzzy Magic Graph on Intuitionistic Space, *International Journal of Recent Technology and Engineering*, Vol.7(8),pp:273-278.
- K.Anitha, M.Thangeswari (2019), A Short Note on Properties of Rough Ideals, *Journal of Applied Science and Computations*, Vol.6(1), doi: 16.10089.JASC.2018.V6I1.453459.1500473.

- K.Anitha (2018),Mathematical Perception in Bigdata Analytics, IAETSD Journal For Advanced Research In Applied Sciences,Vol.5(2).
- K.Anitha (2018), Stochastic And Delay Analysis Of Two Preys And One Predator Ecological System With Competition Among Preys And Self Interaction, Dynamic Systems and Applications, Vol.27(2), pp:201-224.
- K.Anitha(2018), Topological Structures of Fuzzy-Rough Sets, International Journal of Pure and Applied Mathematics, Vol.119(9),pp:277-284
- K.Anitha (2018), Role of Kalman Filters in Probabilistic Algorithm, International Journal of Pure and Applied Mathematics, Vol.118(11),pp:5-10
- K.Anitha (2017), Fuzzy-Rough Set in Feature Selection Algorithm, Frontiers: Journal of Social, Technological and Environmental Science, V.6, Sp.1,pp:139-144
- N.Kalaivani, K.Anitha, D.Saravanakumar, Sai Sundarakrishnan(2017), On γ -Operations in Soft topological Spaces, Far East Journal of Mathematical Sciences, Vol.101(9),pp:2067-77.<http://dx.doi.org/10.17654/MS10109067>.
- K.Anitha (2016), Scaling-up High dimensional data by Rough Boolean Reasoning, Asian Journal of Research in Social Sciences and Humanities, Vol.6(cs1),doi: 10.5958/2249-7315.2016.00975.8,pp:433-442.
- K.Anitha (2016), Rough Neural Network, Asian Journal of Research in Social Sciences and Humanities, Vol.6(cs1),doi:10.5958/2249-7315.2016.00973.4,pp:413-421.
- K.Anitha, P.Venkatesan(2016), Properties of Hesitant Fuzzy Sets, Global Journal of Pure and Applied Mathematics, Vol.12(1).
- K.Anitha(2015), Role of Rough Sets in Soft computing, International Journal of Applied Engineering Research, Vol.10(87),pp:191-194.
- K.Anitha, P.Venkatesan (2015),Biological Data Mining – A Novel Attribute Reduction based on Rough Set Theory, International Journal of Applied Engineering Research, Vol.10(80)
- K.Anitha, P.Venkatesan (2014), Rough Set Theory Approach to Generating Classification Rules, International Journal of Computational Intelligence and Informatics, Vol.4(3),pp:229-235.
- Anitha, K. (2014). Rough Set Theory on Topological Spaces. In: Miao, D., Pedrycz, W., Ślęzak, D., Peters, G., Hu, Q., Wang, R. (eds) Rough Sets and Knowledge Technology. RSKT 2014. Lecture Notes in Computer Science, vol 8818. Springer, Cham. https://doi.org/10.1007/978-3-319-11740-9_7.
- K.Anitha, P.Venkatesan (2014), Rough Sets on Topological Spaces, International Journal of Mathematics Trends and Technology,Vol.10(1),pp:47-50.

- K.Anitha, P.Venkatesan(2013), Feature Selection by Rough – Quick Reduct Algorithm, International Journal of Innovative Research Science Engineering & Technology,Vol.2(8), pp:3989-3993.
- K.Anitha(2012), Gene Selection Based on Rough Set, Applications of Rough set on computational Biology, International Journal of Computing Algorithm,Vol.1(2),pp:38-41.

Books Published

- **K.Anitha**(2015), Mathematics-II, MA6251,Anna University, Regulation 2013, Sai Publications, Erode, ISBN:978-81-909244-1-2
- **K.Anitha**(2016), Resource Management Techniques, CS6704, Anna University,Regulation-2013, Sai Publications, Erode, ISBN:978-81-910991-6
- M.Maria Susai Manual,A.Elumalai, **K.Anitha** (2017),Engineering Mathematics-I, MA8451,Anna University, Regulation 2017, Global Publications, Chennai, ISBN:978-81-93162590
- M.Maria Susai Manual, **K.Anitha**(2018), Engineering Mathematics-II, MA8251, Anna University, Regulation 2017, Global Publications, Chennai, ISBN:978-81-931625-2-1

Book Chapters

- **K.Anitha(2017)**, Rough Set Based Intelligent Data Analysis To Analyze Medical Data Set, Advanced Engineering Research and Applications, Research India Publications, ISBN:978-93-86138-76-7.
- **Anitha, K.** (2021). Predictive Analysis of COVID-19 Transmission: Mathematical Modeling Study. In: Al-Turjman, F., Devi, A., Nayyar, A. (eds) Emerging Technologies for Battling Covid-19. Studies in Systems, Decision and Control, vol 324. Springer, Cham. https://doi.org/10.1007/978-3-030-60039-6_15,
- **Anitha, K.** (2021). Social Media Data Analysis: Rough Set Theory Based Innovative Approach. In: Al-Turjman, F., Nayyar, A., Devi, A., Shukla, P.K. (eds) Intelligence of Things: AI-IoT Based Critical-Applications and Innovations. Springer, Cham. https://doi.org/10.1007/978-3-030-82800-4_9.
- **Anitha, K.,** Datta, D. (2023). Type-2 Fuzzy Set Approach to Image Analysis. In: Castillo, O., Kumar, A. (eds) Recent Trends on Type-2 Fuzzy Logic Systems: Theory, Methodology and Applications. Studies in Fuzziness and Soft Computing, vol 425. Springer, Cham. https://doi.org/10.1007/978-3-031-26332-3_12

Invited Talks

- **Role of Mathematics in Machine Learning** - Sri Venkateswara College of Engineering, Sriperumbudur, Five days STTP on Role of Mathematics in Machine Learning, 23rd -28th March, 2023.
- **Emerging Trends in Applied Mathematics**- Sathyabama Institute of Science and Technology, Chennai, Faculty Development Program on Recent Trends in Mathematics and its Applications organized by AICTE, 6th -12th February, 2023.
- **Role of Mathematics in Data Analytics**- K.G.College of Arts & Science, Coimbatore – 19th November, 2022
- **Essential Mathematics for Machine Learning**- Guru Nanak College, Chennai, 3rd August, 2021.
- **Decoding the Art of Writing High Indexed Research Papers** – Shri Krishnaswamy College for Women, Chennai- One Week Faculty Development Program on Research Methodology-27th June 2021.
- **Mathematical Applications of Rough Sets in Decision Making** - Kongunadu College of Engineering and Technology, Trichy 23rd December 2020.
- **Applications of Rough sets in Data Analysis** - Sri Sai Ram Engineering College, Chennai-31st October 2020
- **Rough Set Theory and its Applications** - Keynote Address- International Virtual Conference on Recent Trends and Technology Queens College of Arts & Science , Tanjore, 7th & 8th October, 2020
- **Mathematics for Machine Learning** – Queens College of Arts & Science for Women, Tanjore, 20th June 2020.
- **Mathematical Methods in Soft Computing** – Hindustan College of Engineering and Technology, Coimbatore, 11th June 2020.
- **Role of Rough Sets in Soft Computing** - JNN College of Arts & Science, Chennai, 21st February 2020.
- **Applications of Calculus in Engineering**- Vellore Institute of Technology, Chennai Campus, 6th November 2017.
- **Mathematical Modelling of Wireless Sensor Networks** - IEEE Sponsored Workshop , SA Engineering College, Chennai, 28th July 2016.

Papers Presented

- K.Anitha, Regression Analysis on Clinical Testing data for Predictive Modeling, 2nd International Conference on Recent Advances in Mathematical Sciences and Interdisciplinary Areas, GLA University, Mathura 22nd to 24th June 2023
- K.Anitha, "Machine learning approaches on COVID-19 clinical data", 2nd National Conference of Tamil Nadu Statistical Association 17th & 18th March 2023

- K.Anitha, “Algebraic Properties of Rough Ideals” International e-Conference on Rough Sets - Generalizations and Applications, Fuzzy and Rough Sets Association, Agartala, Tripura, India 11th _13th November-2021
- K.Anitha, “High dimensional data analysis- A Mathematical Perspective”, Indian International Science Festival-IISF 2020 by CSIR-MHRD.(2021)
- K.Anitha, “Decision Rules for Automatic Classification of High Dimensional Data”, International Virtual Conference on Smart Advanced Material Science and Engineering Applications (2021)
- K.Anitha, “Mathematical Concepts Behind Data Science”, International Conference on Scientific Research, Ankara, Turkey (2020)
- K.Anitha , “Optimal Recursive State Estimation with Robustness Using Kalman Filter Algorithm” International Conference Virtual Conference on Progress in Mathematics towards Industrial Applications (2020)
- With M.Thangeswari, “Rough set based optimization Techniques” International conference on Emerging Trends in Engineering, Science and Technical Education, Chennai Institute of Technology (2019).
- With I.Mumtaj Fathima “On the Co Zero Divisor Graph of $Zp^n q$ “, National Conference on Fluid Mechanics, VIT-Chennai (2019).
- With B.R.Tapas Babu, “Feature Extraction in High Dimensional Data using Rough Neural Network”, The 4th International Conference on Green Technologies for Power Generation, Communication and Instrumentation, St.Peter’s University (2017).
- K.Anitha,” Rough Clustering Techniques by Finding the Reducts”, **The 5th International Conference on Computer Engineering and Mathematical Sciences, Science and Knowledge Research Society, Malaysia (2016).**
- K.Anitha, “Handling Big data through Rough Clustering”, International Conference on Advances In Scientific Computing, IIT, Madras (2016)
- K.Anitha, “Role Of Rough Sets In Data Analysis”, **5th Annual International conference on Computational Mathematics, Computational Geometry & Statistics, Global Science and Technology Forum, Singapore(2016)**
- With P.Venkatesan, “Biological Data mining Through Rough Sets”, National Conference on Frontiers in Applied Sciences and Computer Technology, National Institute of Technology, Trichy,2015.
- K.Anitha, “Rough Set Theory on Topological Spaces”, **IXth International Conference on Rough Sets and Knowledge Technology, Tongji University, Shanghai, China(2014).**
- With P.Venkatesan, “Rough Set Theory On Image Segmentation”, National Conference on Pure and Applied Mathematics, VIT-Chennai, 2014
- With P.Venkatesan, “Rough Set Approach for Generation of Classification Rules for Cancer Diagnosis”, XII Biennial Conference of International Biometric Society on “Recent Advances In High Dimensional Data Analysis, National Institute for Research in Tuberculosis,2013.

- With P.Venkatesan, " Fuzzy-Rough Applications in Medical Diagnosis", National Level Conference on Recent Trends in Advanced Mathematics, Easwari Engineering College, Chennai,2012.
- With P.Venkatesan, "Fuzzy-Rough Attribute Reduction", International Conference On "Mathematics-Engineering And Business and Management, Stella Maris College, Chennai,2012.

Academic Experience:

- Assistant Professor-SG, Ramapuram Campus, SRM Institute of Science and Technology from December 2019 onwards
- Professor- S.A.Engineering College, 2018-2019
- Associate Professor- S.A.Engineering College, 2016-2018
- Assistant Professor- S.A.Engineering College, 2012-2016.
- Lecturer- Mahalakshmi Women's College of Arts & Science, 2006-2012.

Achievements and Awards:

- State Level Eligibility Test (SET)- Mathematical Sciences, 2017

Countries Visited:

- K.Anitha," Rough Clustering Techniques by Finding the Reducts", **The 5th International Conference on Computer Engineering and Mathematical Sciences, Science and Knowledge Research Society, Malaysia (2016) & acted as Session Chair**
- K.Anitha, "Role Of Rough Sets In Data Analysis", **5th Annual International conference on Computational Mathematics, Computational Geometry & Statistics, Global Science and Technology Forum, Singapore(2016)**
- K.Anitha, "Rough Set Theory on Topological Spaces", **IXth International Conference on Rough Sets and Knowledge Technology, Tongji University, Shanghai, China(2014).**

Memberships:

- Life Member in FATER Academy of India,2019
- Life Member in National Foundation For Entrepreneurship Development,2018
- Life Member in International Association of Engineers,2017
- Life Member in The Indian Society for Technical Education,2012

