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Dr. Layak Ali has received his PhD from University of Hyderabad. He obtained his Masters in Computer Science and Bachelor in Electronics and Communication Engineering. He worked in Industry for a period of two years as an Embedded System professional. He joined Deccan College of Engineering and Technology Hyderabad as Assistant Professor in 2002; later he was promoted as Associate Professor and Professor in the department of Information Technology. He also has shouldered the duty of Head of the department for Bachelors (Information Technology) and Masters (Computer Science). He has served Deccan College of Engineering and Technology for period of 11 years in various capacities. Presently he is working as Associate Professor (ECE) in School of Engineering, and joined Central University of Karnataka in 2013. His teaching interests include Signals and Systems, Digital Signal Processing, Digital Electronics, Microprocessors / Microcontrollers and Embedded System Design.

The current research areas are Image Processing, Embedded System, Global Optimization and Swarm Intelligence. He is serving as reviewer to various Elsevier, Springer journals and International Conferences. He has been invited as resource person at several national level workshops and conferences. He has 30+ publications in well-known international journals and conferences.

The publications can be found below

A. Journal Publications

1. Samrat L. Sabat, **Layak Ali**, "Hyper spherical Accelerated Effect Particle Swarm Optimizer", Applied Soft Computing, Vol. 9, No.13, pp. 906-917, 2009
   ISSN: 1568-4946, E-ISSN: 1872-9681
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2. Samrat L. Sabat, **Layak Ali**, Siba K. Udgata, "Integrated Learning Particle Swarm Optimizer", Applied Soft Computing, Vol. 11, No. 1, pp.574-584, .2011
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3. **Layak Ali**, Samrat L. Sabat, Siba K. Udgata, "Particle swarm optimisation with stochastic ranking for constrained numerical and engineering benchmark problems", International Journal of Bio-Inspired Computation, Vol. 4, No. 3, pp:155-166, 2012,
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   DOI: https://doi.org/10.1504/IJBIC.2012.047238

4. **Layak Ali**, Samrat L. Sabat, "Particle Swarm Optimization Based Universal Solver for Global Optimization",Journal of Bioinformatics and Intelligent Control, Vol. 1, No. 1, pp: 95-105, 2012
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5. **Layak Ali**, Samrat L. Sabat, "Particle swarm optimisation with adaptive neighbourhood search for solving multi-objective optimisation problems", International Journal of Swarm Intelligence, 2016 Vol. 2, No. 1, pp.1 – 42
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6. Vishwaraj B Manur, **Layak Ali,** "MMSE Version Compressed Sensing algorithms for sparse Channel Estimation in MIMO-ACO-OFDM System", Journal of Advanced Research in Dynamical and Control Systems. Vol 11, Issue 10, Oct 2019, pp: 156-166
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7. B. Gireesha, **Layak Ali**, "MATLAB/Simulink and CST Software based Efficiency Improved Square Patch Microstrip Antenna with PSO Algorithm", Journal of Advanced Research in Dynamical and Control Systems, Vol. 11, No: 06, pp: 420-428, 2019.
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8. Vishwaraj B. Manur, **Layak Ali**, "Compressed sensing channel estimation for STBC-SM based hybrid MIMO-OFDM system for visible light communication", International Journal of Communication System, Vol. 33, No. 11, 2020,
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9. **Layak Ali**, "Grey Wolf Cuckoo Search Algorithm for Training Feedforward Neural Network and Logic Gates Design", International Journal on Recent and Innovation Trends in Computing and Communication, Volume: 11 Issue: 9, pp: 722-732, 2023,
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10. Atheeq. G. Shree Devi, Rajeswari, **Layak Ali**, M. A Rabbani, "Effective Prognosis of Diabetes Using Machine Learning Techniques", International Journal on Recent and Innovation Trends in Computing and Communication, Volume: 11 Issue: 9, pp: 1190–1196, 2023,
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11. **Layak Ali**, "Generic Graphical User Interface for CBIR framework", Applied Computer Systems, December 2023, Vol. 28, No. 2, pp. 203–209,
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12. Prasanna Bagdalkar, **Layak Ali**, "Efficiency and Performance Optimization of Non-Ideal Synchronous Buck Converter Using MOMI Tuned PID Controller for Voltage Mode Control", SSRG International Journal of Electrical and Electronics Engineering, Vol. 11, No. 3, pp. 308-323, 2024.
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14. **Layak Ali**, Susmitha Dokur, A. Santhosha Kumar, "Design of IoT Based Real-Time Color Recognition and Mixing Machine", International Journal of Electrical and Electronics Engineering, Vol. 11, No. 5, pp. 12-19, 2024.
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15. Amir Ahmad Dar, Zameer Gulzar, Ramesh A. Babu, **Layak Ali**, G. Shreedevi,, "Comparison: Taguchi Method and Full Factorial Design in WACC", International Journal of Intelligent Enterprise (Inderscience), Vol. 11, No. 3, pp. 300-315, 2024,
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B. Book Chapters

1. Samrat L. Sabat, **Layak Ali,** and Siba K. Udgata, "Stochastic Ranking Particle Swarm Optimization for Constrained Engineering Design Problems", Lecture Notes in Computer Science (LNCS, Volume 6466), Springer-Verlag Berlin Heidelberg, 2010, pp.: 672–679
ISBN: 978-3-642-17562-6, E-ISBN: 978-3-642-17563-3
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2. **Layak Ali**, Samrat L. Sabat & Siba K. Udgata, "Adaptive and Accelerated Exploration Particle Swarm Optimizer (AAEPSO) for Solving Constrained Multiobjective Optimization Problems", Lecture Notes in Computer Science, (LNCS, Volumel 6466), Springer, Berlin, Heidelberg, pp.: 155–162, 2010, ISBN: 978-3-642-17562-6, E-ISBN: 978-3-642-17563-3
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3. **Layak Ali**, Samrat L. Sabat and Siba K. Udgata, "MESFET DC Model Parameter Extraction Using Adaptive Accelerated Exploration Particle Swarm Optimizer", Springer, Lecture Notes in Computer Science book series (LNCS, Volume 7677), pp.: 66–73, 2012, ISBN: 978-3-642-35379-6, DOI: 10.1007/978-3-642-35380-2_9

4. **Layak Ali,** "Multilevel Thresholding in Image Segmentation Using Swarm Algorithms", Springer, Advances in Intelligent Systems and Computing book series (AISC, Volume 338), pp.: 201–210, 2015, ISBN: 978-3-319-13730-8, E-ISBN: 978-3-319-13731-5, https://doi.org/10.1007/978-3-319-13731-5_23

5. Supraja Kulkarni and **Layak Ali**, "Comprehensive Analysis of Nonlocal Means Algorithm on Wide Set of ECG Signals", Lecture Notes in Networks and Systems book series (LNNS, Volume: 40), **Springer**, Singapore, August 2018, ISBN 978-981-13-0585-6, E-ISBN 978-981-13-0586-3, https://doi.org/10.1007/978-981-13-0586-3_56

C. Conference Publications

1. Samrat L. Sabat, **Layak Ali**, "The Combined Effect Comprehensive Learning Particle Swarm Optimizer", 24th International Symposium on Automation & Robotics in Construction (ISARC 2007), Construction Automation Group, IIT Madras, 21-09-2007, pp.: 347-354, ISBN 978-81-904235-1-9, ISSN 2413-5844, DOI: https://doi.org/10.22260/ISARC2007/0059

2. Samrat L. Sabat, **Layak Ali**, "Integrated Learning Particle Swarm Optimizer", Proceedings of the 3rd Indian International Conference on Artificial Intelligence, Pune, India, December 17-19, 2007, IICAI 2007, pp.: 421-440, ISBN: 978-0-9727412-2-4

3. Samrat L. Sabat, **Layak Ali**, "Accelerated exploration Particle Swarm Optimizer-AEPSO", IEEE International Conference TENCON 2008, IEEE Region 10 Conference, Hyderabad, ISBN: 9781424424085, DOI: 10.1109/TENCON.2008.4766568

4. Samrat L. Sabat, Vijay Raju and **Layak Ali**, "MESFET Small Signal Model Parameter Extraction Using Particle Swarm Optimization", IEEE International Conference on Microelectronics (ICM 2008), 14-17 December 2008, University of Sharjah, United Arab Emirates, pp. 208-211, ISBN: 9781424423699, DOI: 10.1109/ICM.2008.5393521

5. Samrat L. Sabat, **Layak Ali** and Siba K. Udgata, "Adaptive Accelerated Exploration Particle Swarm Optimizer", IEEE World Congress on Nature and Biologically Inspired Computing (NABIC 2009), IEEE and MIR Labs, 9 – 11 December 2009, Coimbatore, India.
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6. Mahmad Raphiyoddin S. Malik, E. Rasul Mohideen, **Layak Ali**, "Weighted distance Grey wolf optimizer for global optimization problems", IEEE International Conference on Computational Intelligence and Computing Research (ICCIC), pp.: 1-6, December 10th to 12th 2015, Vickram College of Engineering, Enathi, Madurai - 630 561 (Sivagangai Dist)., Tamil Nadu, India, ISBN: 9781479978472, DOI: 10.1109/ICCIC.2015.7435714

7. S. K. Subhani Shareef, E. Rasul Mohideen, **Layak Ali**, "Directed firefly algorithm for multimodal problems," 2015 IEEE International Conference on Computational Intelligence and Computing Research (ICCIC), pp. 1-6, December 10th to 12th 2015, Vickram College of Engineering, Enathi, Madurai - 630 561 (Sivagangai Dist), Tamil Nadu, India, ISBN: 9781479978472, DOI: 10.1109/ICCIC.2015.7435713.

8. Apoorva Joshi and **Layak Ali**, "A detailed survey on Auto Irrigation system", International IEEE Conference on Emerging Devices and Smart Systems (ICEDSS 2017), pp: 90-95, 3-4 March 2017, Mahendra Engineering College, Tamilnadu, India. Electronic ISBN:978-1-5090-5556-2, E- ISBN:978-1-5090-5555-5, DOI: 10.1109/ICEDSS.2017.8073665

9. Vishwaraj, **Layak Ali**, "Performance Evaluation of Linear and Nonlinear Scale Descriptor Based Algorithms" IEEE, International Conference on Computing, Power and Communication Technologies (GUCON), Galgotias University, Greater Noida, UP, India. Sep 28-29, 2018, ISBN:978-1-5386-4492-8, E-ISBN:978-1-5386-4491-1, DOI: 10.1109/GUCON.2018.8674950.

10. Anushree Math, **Layak Ali**, U Pruthviraj, "Development of Smart Drip Irrigation System Using IoT," IEEE Distributed Computing, VLSI, Electrical Circuits and Robotics (DISCOVER), Mangalore, India, 2018, pp. 126-130, ISBN:978-1-5386-5324-1, E-ISBN:978-1-5386-5323-4, DOI: 10.1109/DISCOVER.2018.8674080

11. Vishwaraj, **Layak Ali** "MMSE based compressed sensing algorithms for channel estimation in VLC" IEEE 4th International Conference on Electrical, Electronics, Communication, Computer Technologies and Optimization Techniques (ICEECCOT-2019), Mysore, India. Dec 14-15, 2019, ISBN: 978-1-7281-3262-4, E-ISBN: 978-1-7281-3261-7, DOI:10.1109/ICEECCOT46775.2019.9114587

12. Vishwaraj, **Layak Ali**, "Hybrid MIMO-OFDM system for 5G network using VLC- A review", 3rd IEEE International Conference on Electrical, Computer and Communication Technologies (IEEE ICECCT 2019), Coimbatore, Tamil Nadu, India. ISBN: 978-1-5386-8159-6, E-ISBN: 978-1-5386-8158-9, DOI: 10.1109/ICECCT.2019.8869299

13. Anuradha Hadgil, Apoorva Joshi, **Layak Ali**, S P Sajjan, "Low-cost soil moisture sensor analysis for agricultural usage", International Conference on Sustainable Computing in Science, Technology & Management (SUSCOM-2019), Amity University Rajasthan, Jaipur, India, Feb- 2019. pp: 1135-1141, SSRN-Elsevier Digital Library, https://ssrn.com/abstract=3356526 DOI: http://dx.doi.org/10.2139/ssrn.3356526

14. Prasanna Kumar, **Layak Ali**, "Hardware Implementation of I2C Controller on FPGA and Validation Through Interfacing with Low Cost ADC", 4th International Conference on Inventive Systems and Control (ICISC 2020), 10-12 January 2020. JCT College of Engineering And Technology, Pichanur, Coimbatore 641105, TamilNadu, India. ISBN:978-1-7281-2814-6, E-ISBN:978-1-7281-2813-9, DOI: 10.1109/ICISC47916.2020.9171095

15. Prasanna Kumar, **Layak Ali**, "Interfacing of light sensor with FPGA using I2C bus", International Conference on Advanced Computing & Communication Systems (ICACCS-2020), Sri Eshwar College of Engineering Coimbatore, Tamil Nadu, India, March 6-7, 2020. ISSN: 2469-5556, E-ISSN: 2575-7288, DOI: 10.1109/ICACCS48705.2020.9074372

16. Dr. Atheeq, **Dr. Layak Ali**, Dr. Altaf, Aleem Mohammed, "Mitigating Man-in-the-Middle Attack in UAV Network using Authentication Mechanism based on Chaotic Maps", International Conference on Advances in Emerging Trends in Computer Applications (ICAETC-2023), December 21 – 22, 2023, Sacred Heart College, Thevara, Kochi, Kerala, India, In the CRC press, Taylor & Francis, Scopus Indexed.