DC Member 4 - 5-year Publication details

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List of Publications: -

I. International Journals

1. K.Roshini, B.Bavya, G.Jeyakumar, "*RoBaJe* – A Simulated Computational Model for Human Memory to Illustrate Encoding and Decoding of Information", *International Journal of Applied Engineering Research, Research India Publications, ISSN 0973-4562* Vol. 9, No. 24, pp. 26957-26970, January-2015. *(Scopus Indexed)*

2. Meera Sanu and G.Jeyakumar, "Empirical Performance Analysis of Distributed Differential Evolution For Varying Migration Topologies", *International Journal of Applied Engineering Research, Research India Publications, ISSN 0973-4562*, Vol. 10, No. 5, pp. 11919-11932, April-2015. *(Scopus Indexed)*

3. Rachamalla Rahul Reddy and G.Jeyakumar, "Differential Evolution with Added Components for Early Detection and Avoidance of Premature Convergence in Solving Unconstrained Global Optimization Problems", *International Journal of Applied Engineering Research, Research India Publications, ISSN 0973-4562*, Vol. 10, No. 5, pp. 13579-13594, April-2015. *(Scopus Indexed)*

4. S. Thangavelu,G. Jeyakumar and C. Shunmuga Velyautham, "Population Variance Based

Empirical Analysis of the Behavior of Differential Evolution Variants", *Applied Mathematical Sciences*, HIKARI Ltd, Vol. 9, No. 66, pp. 3249 – 3263, April-2015. *(Scopus Indexed).* (Presented at *International Conference on Mathematics and its Application, University College of Engineering, Vizhupuram, India, (ICMA)December-2014)* **ISSN:** 1312885X *(Scopus Indexed)*

5. Ramya Raghu and G Jeyakumar, "Empirical Analysis on the Population Diversity of the Sub-populations in Distributed Differential Evolution Algorithm," *In Proceedings of Springer International Conference on Soft Computing Systems,* 19th February-2016, and in *International Journal of Control Theory and Applications*, **Vol.** 8, **No.** 5, pp. 1809-1816, April 2016. *(Scopus Indexed)*

6. M.S. Akhila, C.R. Vidhya and G. Jeyakumar, "Population Diversity Measurement Methods to Analyze the Behavior of Differential Evolution Algorithm," *In Proceedings of Springer International Conference on Soft Computing Systems,* 19th February-2016 and in *International Journal of Control Theory and Applications,* **Vol.** 8, **No.** 5, pp. 1709-1717, April 2016. *(Scopus Indexed)*

7. Ramya Raghu and G.Jeyakumar, "Mathematical Modelling of Migration Process to Measure Population Diversity of Distributed Evolutionary Algorithms", *Indian Journal of Science and Technology,* Vol, 9., No. 31, pp. 1-10, 2016. *ISSN (Online): 0974-5645, ISSN (Print): 0974-6846, Sep-2016. (Scopus Indexed)*

8. Dhanya M Dhanalakshmy, Pranav P, Jeyakumar G, "A Survey on Adaptation Strategies for Mutation and Crossover Rates of Differential Evolution Algorithm", *International Journal on Advanced Science, Engineering and Information Technology,* Vol. 6, No. 5, pp. 613-623, November-2016, ISSN 2088 5334. *(Scopus Indexed)*

9. M. Subramania Siva and G. Jeyakumar, "Universal Automobile Headlight Control Module for High Beam Adaptation during Night Vision Travel an Embedded Design Approach", *International Journal of Reconfigurable and Embedded Systems (IJRES),* Vol. 7, No. 1, March 2018, pp. 34-42, ISSN: 2089-4864.

10. Devika. K, G. Jeyakumar, "Theoretical Analysis and Empirical Comparison of Different Population Initialization Techniques for Evolutionary Algorithms", *Indonesian Journal of Electrical Engineering and Computer Science*, Vol. 12, No. 1, October 2018, pp. 87~94 ISSN: 2502-4752, DOI: 10.11591/ijeecs.v12.i1.pp87-94 Journal homepage: http://iaescore.com/journals/index.php/ijeecs *(Scopus Indexed)*

11. Jeyakumar G and Sreenath. K "Personalized Courseware Construction using Association Rules with Differential Evolution Algorithm", *In proceeding of 20186 International Conference on Advances in Computer Science, Engineering and Technology, Kalasalingam University,* Madurai*, Jan-19th 2018. Published in International Journal of Applied Mathematics, Vol. 118, No. 18, pp. 2591-2596, 2018.

12. Spurti Sachin Shinde, K. Devika, S. Thangavelu, G. Jeyakumar, "Multi-Objective Evolutionary Algorithm Based Approach for Solving Rfid Reader Placement Problem Using Weight-Vector Approach with Opposition-Based Learning Method", *International Journal of Recent Technology and Engineering*

(IJRTE) ISSN: 2277-3878, Volume-7, Issue-5, pp. 177-184, January 2019. *(Scopus Indexed)*

13. Pragadeesh C, Rohana Jeyaraj, Siranjeevi K, Abishek R, Jeyakumar G, "Hybrid feature selection using micro genetic algorithm on microarray gene expression data", *In Proceedings of 4ᵗʰ International Conference on Intelligent Systems Technologies and Applications* (ISTA-2018), Held at PES college, Bangalore, September 19-22, 2018. Published *in Journal of Intelligent & Fuzzy Systems*, vol. 36, no. 3, pp. 2241-2246, April- 2019. *(Scopus Indexed)*

14. Katamneni Vinaya Sree and Jeyakumar, G , "An Evolutionary Computing Approach to Solve Object Identification Problem in Image Processing Applications", In Proceedings of 1ˢᵗ International Conference on Intelligent Computing (ICIC 2018), Held at Amrita University, Bangalore Campus, October 25 to 27 – 2018. Published in *Journal of Computational and Theoretical Nanoscience*, Volume 17, Number 1, January 2020, pp. 439-444(6) *(Scopus Indexed)*

15. Jeyakumar G and Shunmuga Velayutham C, "Heterogeneous mixing of dynamic differential evolution variants in distributed frame work for global optimisation problems", *International Journal of Artificial Intelligence Paradigms, Vol. , No, pp. , 2019.* (Published online, in production)
DOI - 10.1504/IJAIP.2018.10012580

Link - http://www.inderscience.com/info/ingeneral/forthcoming.php?jcode=ijaip#69949

16. Dhanya M. Dhanalakshmy, M.S. Akhila, C.R. Vidhya, G. Jeyakumar, " Improving the Search Efficiency of Differential Evolution Algorithm by Population Diversity Analysis and Adaptation of Mutation Step Sizes", *International Journal of Artificial Intelligence Paradigms,* Special Issue on: Nature-inspired Computing and Its Applications, *DOI - 10.1504/IJAIP.2020.10012567,* Vol. 15, No. 2, 2020. *(Scopus Indexed)*

Link - http://www.inderscience.com/info/ingeneral/forthcoming.php?jcode=ijaip#69949

17. Saeed Ahmed, Nirmal Krishnnan, Thanmay Ganta and Gurusamy Jeyakumar. "A Video Analytics System for Class Room Surveillance Applications", presented in ICCET-2019 conference (9ᵗʰ International Conference On Science And Innovative Engineering And Technology) held at Prince Shri Venkateshwara Padmavathy Engineering College, Chennai at April – 8ᵗʰ 2019. Published in *International Journal of Recent Technology and Engineering*. ISSN: 2277-3878, Volume-7, Issue-5S3, February 2019. *(Scopus Indexed)*

18. Dhanya M Dhanalakshmy, G. Jeyakumar, C. Shunmuga Velayutham,"Crossover-Free Differential Evolution Algorithm to study the impact of Mutation Scale Factor Parameter", *International Journal of Recent Technology and Engineering (IJRTE)* ISSN: 2277-3878, Volume-7, Issue-6, pp. 1728-1737, March 2019. *(Scopus Indexed)*

19. Sruthi, A, Anbuudayasankar, S.P and Jeyakumar, G "Energy efficient green vehicle routing problem", *International Journal of Information Systems and Supply Chain Management*, Vol. 12, No. 4, pp. 27-41. 1 October 2019, *(Scopus Indexed)*

II. International Conferences

1. P. Pranav, and G. Jeyakumar, "Control Parameter Adaptation Strategies for Mutation and Crossover Rates

of Differential Evolution Algorithm – An Insight," *In Proceedings of IEEE International Conference on Computational Intelligence and Computing Research* (*ICCIC-2015*), December-2015, pp. 563 - 568.*ISBN: 978-1-4788-7848-9. (Scopus Indexed)*

2. Jeyakumar G, Raaghul K, Pavithra N, Kavya D and Aswathi B,"A Prototype for Student Learning Style Modelling Using Felder-Silverman Learning Style Model," *In Proceedings of International Conference on Smart Structures & Systems (ICSSS-2016)*, Chennai, India, 23rd March – 2016, pp. 178 – 182.

3. Sreenath. K, Jeyakumar G, "Evolutionary Algorithm Based Rule(s) Generation for Personalized Courseware Construction in Educational Data Mining", *In proceeding of 2016 IEEE International Conference on Computational Intelligence and Computing Research (ICCIC – 2016), December 2016, Agni College of Technology, Chennai,* pp. 609-615, 2016. ISBN: 978-1-5090-0611-3. *(Scopus Indexed)*

4. Haritha, Thangavelu, Jeyakumar, "Image Fusion using Evolutionary Algorithms: A survey", In Proceedings of ICACCS 2017, Sri Eeshwar College of Engineering, Jan 6th and 7th 2017. *(Scopus Indexed)*

5. Rubini, N, ChambuliVenkata Prashanthi, Subanidha, S, Jeyakumar, G "An Optimization framework for Solving RFID Reader Placement Problem Using Differential Evolution Algorithm", *In Proceedings of ICCSP-2017 – International Conference on Communication and Signal Proceedings,* Held at Adiparasakthi College of Engineering, 7th April 2017. *(Scopus Indexed)*

6. Kevin Thomas Abraham, Ashwin M, Darshak Sundar, Tharic Ashoor, Jeyakumar, G "An Evolutionary Computing Approach for Solving Key Frame Extraction Problem in Video Analytics", *In Proceedings of ICCSP-2017 – International Conference on Communication and Signal Processing*, Held at Adiparasakthi College of Engineering, 7th April 2017. *(Scopus Indexed)*

7. Gokul, K, Pooja, R, Gowtham, K, Jeyakumar, G "A Self-Switching Base Vector Selection Mechanism for Differential Mutation of Differential Evolution Algorithm", *In Proceedings of ICCSP-2017 – International Conference on Communication and Signal Proceedings,* Held at Adiparasakthi College of Engineering, 7th April 2017. *(Scopus Indexed)*

8. Rubini, N, ChambuliVenkata Prashanthi, Subanidha, S, Thota Naga Sai Vamsi Jeyakumar, G "An Optimization framework for Solving RFID Reader Placement Problem Using Greedy Approach", *In Proceedings of ICACCI-2017 – 6th International Conference on Advances in Computing, Communications and Informatics,* Held at Manipal University, 15th Sept 2017. *(Scopus Indexed)*

9. Kevin Thomas Abraham, Ashwin M, Darshak Sundar, Tharic Ashoor, Jeyakumar, G "Empirical Comparison of Different Key Frame Extraction Approaches with Differential Evolution based Algorithms", *In Proceedings of ISTA-2017 – 3rd International Symposium on Intelligent System Technologies and Applications*, Held at Manipal University, 15th Sept 2017. *(Scopus Indexed)*

10. Shilpa Raju, Jeyakumar, Arup Mukherji, Jignesh K Thanki "Time Synchronized Diagnostic Event Data Recording based on AUTOSAR", *IEEE International Conference on Advanced Networks and Telecommunications Systems*, C. V. Raman College of Engineering, Bhubaneswar, Odisha, India, 17th –

20th December 2017. *(Scopus Indexed)*

11. Devika, K.Email and Jeyakumar, G. "Solving Multi-Objective Optimization Problems using Differential Evolution Algorithm with Different Population Initialization Techniques", *2018 International Conference on Advances in Computing, Communications and Informatics*, ICACCI 2018, 30 November 2018, Article number 8554861, Pages 1-57. *(Scopus Indexed)*

12. Jeyakumar, G and Nagarajan, R., "Algorithmic Approaches for Solving RFID Reader Positioning Problem with Simulated and Real-time Experimental Setups", *In Proceedings of 7th International Conference on Advances in Computing, Communications and Informatics, ICACCI* 2018, 30 November 2018, Article number 8554865, Pages 1383-1387. *(Scopus Indexed)*

13. Gokul, K, Pooja, R, and Jeyakumar, G. "Empirical Evidences to Validate the Performance of Self-Switching Base Vector Based Mutation of Differential Evolution Algorithm*", In Proceedings of 7th International Conference on Advances in Computing, Communications and Informatics, ICACCI 2018*, 30 November 2018, Article number 8554928, Pages 2213-2218, 2018. *(Scopus Indexed)*

14. Abhishek S, Emmanuel Sunil Coreya, Rajeshwar G and Jeyakumar G, "A Genetic Algorithm based System with Different Crossover Operators for Solving the Course Allocation Problem of Universities", *In Proceedings of International Confernece on Computational Vision and Bio-Inspired Computing*, Held at Archadia Hotel, Coimbatore, November 29 – 30, 2018. (to be published in Lecture Notes in Computational Science and Engineering).

15. Katamneni Vinaya Sree and Jeyakumar G, "A Computer vision based fall detection technique for home surveillance", Proceedings of the International Conference on ISMAC in Computational Vision and Bio-Engineering 2019 (ISMAC-CVB), held at Vivekanandha College of Technology for Women on 13th March 2019. Published *In: Smys S., Tavares J., Balas V., Iliyasu A. (eds) Computational Vision and Bio-Inspired Computing. ICCVBIC 2019. Advances in Intelligent Systems and Computing*, Vol 1108. pp 355-363, Springer, Cham. *(Scopus Indexed)*

16. Kiran S Raj, M Nishanth and Gurusamy Jeyakumar, " Design of Binary Neurons with Supervised Learning for Linearly Separable Boolean Operations", *Proceedings of the International Conference on ISMAC in Computational Vision and Bio-Engineering 2019* (ISMAC-CVB), held at Vivekanandha College of Technology for Women on 13th March 2019, Published In: Smys S., Tavares J., Balas V., Iliyasu A. (eds) *Computational Vision and Bio-Inspired Computing. ICCVBIC 2019. Advances in Intelligent Systems and Computing*, Vol 1108., pp. 480-487, Springer, Cham. *(Scopus Indexed)*.

17. Konjeti Harsha Saketh and Jeyakumar G, "Comparison of Dynamic Programming and Genetic Algorithm Approaches for Solving Subset Sum Problems", ICCBVIC 2019, Held at Arcadia Coimbatore, on 26/09/2019, Published In: Smys S., Tavares J., Balas V., Iliyasu A. (eds) *Computational Vision and Bio-Inspired Computing. ICCVBIC 2019. Advances in Intelligent Systems and Computing*, vol 1108, pp 472-479, Springer, Cham. *(best paper award) (Scopus Indexed)*

18. Devika. K and Jeyakumar. G, "An Evolutionary Algorithmic Framework to Solve Multi-Objective Optimization Problems with Variable Length Chromosome Population", 3rd International Conference on

Intelligent Computing and Communication (ICICC - 2019), Dayananda Sagar University, School of Engineering Bangalore, 7th & 8th June, 2019. *Published in Advances in Intelligent Systems and Computing Series*, Vol 1034. Springer, pp 483-493, *(Scopus Indexed)*

19. Spurti Sachin Shinde, Thangavelu S and Jeyakumar G, "Evolutionary Computing Approaches for Solving Multi-Objective and Many-Objective Optimization Problems: A Review", *5th International Conference on Computing Communication Control and Automation (ICCUBEA)*, held at Pimpri Chinchwad College Of Engineering, Pune, on 19-21 September 2019. *(Scopus Indexed)*

20. Srivatsa D., Teja T.P.V.K., Prathyusha I., Jeyakumar G. (2019) An Empirical Analysis of Genetic Algorithm with Different Mutation and Crossover Operators for Solving Sudoku. In: Deka B., Maji P., Mitra S., Bhattacharyya D., Bora P., Pal S. (eds) *Pattern Recognition and Machine Intelligence. PReMI 2019. Lecture Notes in Computer Science*, vol 11941. Springer, Cham. *(Scopus Indexed)*

21. Dhanalakshmy D.M., Jeyakumar G., Shunmuga Velayutham C. (2019) Analytical Study and Empirical Validations on the Impact of Scale Factor Parameter of Differential Evolution Algorithm. In: Deka B., Maji P., Mitra S., Bhattacharyya D., Bora P., Pal S. (eds) *Pattern Recognition and Machine Intelligence. PReMI 2019. Lecture Notes in Computer Science*, vol 11941. Springer, Cham. *(Scopus Indexed)*.

22. Uma Subbiah and Gurusamy Jeyakumar, "Soft Computing Approach to Determine Students' Level of Comprehension Using a Mamdani Fuzzy System", *In Proceeding of ISTA'2019,* Indian Institute of Information Technology and Management-Kerala (IIITM-K), Trivandrum, Kerala December 18-20, 2019. *(Scopus Indexed)*

23. Tadi Aravind, Bhimavarapu Sasidhar Reddy, Sai Avinash and Jeyakumar G, "A Comparative Study on Machine Learning Algorithms for Predicting the Placement Information of Under Graduate Students", *In Proceedings of 3rd International conference on I-SMAC* (IoT in Social, Mobile, Analytics and Cloud) , Held at SCAD institute of Technology, Palladam, Tamil Nadu on December 12-14' 2019. *(Scopus Indexed)*

24. Nirmal Krishnnan, Saeed Ahmed, Thanmay Ganta, Gurusamy Jeyakumar, "A Video Analytics Based Solution for Detecting the Attention Level of the Students in Class Rooms", *In Proceedings of 10th International Conference on Cloud Computing, Data Science and Engineering* (Confluence 2020), 29th – 31st January, Amity University, Noida, 2020. *(Scopus Indexed)*

25. Karthi P V S M S, Jeyakumar G, "A Deep Learning based System to Predict the Noise (Disturbance) in Audio Files", *In proceedings of 3rd International Conference on Emerging Current Trends in Computing and Expert Technologies* (COMET-2020)", March – 05, 2020, Panimalar Engineering College, Chennai, *To be published in Advances in Parallel Computing. (best paper award)*.

26. Aathira M and Jeyakumar G, "Performance Enhancement of Differential Evolution Algorithm with Modified Mutation and Crossover Components", *In Proceedings of IEEE International Conference on Computing Methodologies and Communication* ICCMC 2020, Surya Engineering College, International Conference, Erode, Tamil Nadu, 11th - 13th March 2020. *(Scopus Indexed)*

27. Konjeti Harsha Saketh, Konjeti BVNS Sumanth, Kartik P V S M S, KSS Aneeswar and Jeyakumar G, "Differential Evolution with Different Crossover Operators for Solving Unconstrained Global Optimization

Algorithms", *In Proceedings of International Conference on Image Processing and Capsule Networks, Proceedings by Springer-AISC*, Thailand, May 6-7 – 2020.

III. Edited Volumes

1. Thangavelu. S, Jeyakumar. G, Roshni M. Balakrishnan and Shunmuga Velayutham. C, "Theoretical Analysis of Expected Population Variance Evolution for a Differential Evolution Variant", *In Smart Innovation, Systems and Technologies,* Springer, Vol. 32*,* pp. 403-416, January- 2015. **ISSN:** 21903018 *(Scopus Indexed)*

2. Jeyakumar, G. and ShunmugaVelayutham, C. "Hybridizing Differential Evolution Variants Through Heterogeneous Mixing in a Distributed Framework", *Hybrid Soft Computing Approaches, Studies in Computational Intelligence 611*, Springer, pp. 107-151. August – 2015. ISSN: 1860949X (Scopus Indexed).

3. S.Nambiar and G.Jeyakumar "Co-Operative Co-Evolution Based Hybridization of Differential Evolution and Particle Swarm Optimization Algorithms in Distributed Environment", *In Emerging Research in Computing, Information, Communication and Applications – by Springer*, July - 2015, Vol.2, pp. 175 – 187. ISBN (Print) 978-81-322-2552-2 , ISBN (online) 978-81-322-2553-9.

4. Sree K.V. Jeyakumar G "An Evolutionary Computing Approach to Solve Object Identification Problem for Fall Detection in Computer Vision-Based Video Surveillance Applications, (Book Chapter) *Studies in Computational Intelligence,* Springer Vol. 873, pp. 1-18, 2020. (Scopus Indexed)

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Signature of HOD/Director of the Centre of the Supervisor
(Name with Seal)