

CURRICULUM VITAE

ANAND J KULKARNI

PhD, MAsc, BEng, DME

Research Professor & Associate Director
Institute of Artificial Intelligence
MIT World Peace University
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Areas of Interest

Optimization Algorithms, Multi-objective Optimization, Continuous, Discrete and Combinatorial Optimization, Multi-Agent Systems, Complex Systems, Cohort Intelligence, Probability Collectives, Genetic Algorithms, Swarm Optimization, Artificial Neural Networks, Nash Equilibrium, Game Theory, Graph Theory, Computational Geometry, Numerical Methods, Fault-tolerant and Self-healing Systems, Self-organizing Systems

Career Snapshot

- ⇒ Over **21 years** of Research and Academic experience
- ⇒ **Research Fellow** on the **Cross-Border Supply Chain Disruption Project** at Odette School of Business, University of Windsor, Canada
- ⇒ **Founder and Chair** of **Optimization and Agent Technology Research (OAT Research) Lab**: An International Research Organization
- ⇒ **Developed Distributed Optimization Software**
- ⇒ **A Doctor of Philosophy (PhD)** from **Nanyang Technological University, Singapore**
- ⇒ **A Master of Applied Science (MAsc)** from **University of Regina, Canada**

Education

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|-----------|---|
| 2007-2012 | PhD (Mechanical and Aerospace Engineering) Nanyang Technological University, Singapore
<i>Thesis</i> : A Distributed Multi-Agent System Approach for Solving Constrained Optimization Problems using Probability Collectives
Fellowship Awarded for 4 years: \$32000 per year |
| 2004-2006 | Master of Applied Science (MAsc) (Industrial Systems Engineering) from University of Regina, SK, Canada
<i>Thesis</i> : Optimization of Connection Weights of Artificial Neural Networks through Layer Partition and Genetic Algorithms
RA & TA Awarded for 2 years: \$12000 per year |
| 1999-2002 | Bachelor of Engineering (BEng) (Mechanical Engineering) from Shivaji University, MH, India
<i>Project</i> : Computer Aided Design of Spindle Assembly of Cylindrical Grinding Machine |
| 1996-1999 | Diploma in Engineering (Mechanical Engineering) from Board of Technical Education, Mumbai, MH, India
<i>Project</i> : Pollution Reducer for Stationary Diesel Engines |

Professional Work Experience

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|-----------------|---|
| 2021- Till Date | Research Professor & Associate Director of 'Institute of Artificial Intelligence', MITWPU, Pune, MH, India |
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2016-2021 **Associate Professor** at Symbiosis Institute of Technology, Symbiosis International University Pune, India

2016-2019 **Head and Associate Professor** at Symbiosis Institute of Technology, Symbiosis International University Pune, India

2014-2015 **Assistant Professor** at Symbiosis Institute of Technology, Symbiosis International University Pune, India

2012-till date **Chairman** of OAT Research Lab

2013-2014 **Research Fellow** at Odette School of Business, University of Windsor, Canada

2011-2013 **Assistant Professor** at Maharashtra Institute of Technology Pune, MH, India

2013-till date **Vice President** of Central India Alumni Association: Nanyang Technological University, Singapore

2012-2013 **Managing Editor** International Journal of Computer Information Systems and Industrial Management Applications (IJCISIM)

2006-2007 **Lecturer** with Pune University, MH, India

2003-2004 **Production Engineer** with Poona Couplings Pvt. Ltd., Pune, MH, India
CNC Programming and Production of Various Sized Flexible Couplings, Turbine Housings, Engine Covers on CNC Machining Centers

2002-2003 **System Engineer** with Yantra Automation, Pune, MH, India
Designing of Jigs and Fixtures for CNC Machining Centers

2008-2011 **Teaching Assistant** with the Faculty of Mechanical and Aerospace Engineering, Nanyang Technological University, Singapore

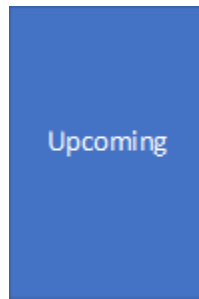
2005-2006 **Teaching Assistant** with the Faculty of Industrial Systems Engineering, University of Regina, SK, Canada

2004-2006 **Research Assistant** with the Faculty of Industrial Systems Engineering, University of Regina, SK, Canada as Research

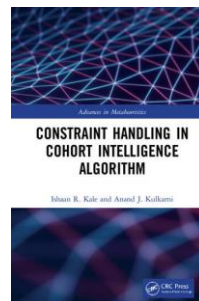
Publications

Authored Books

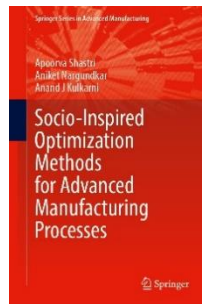
1. Biswal, S.K., **Kulkarni, A.J.**: Exploring the Intersection of Artificial Intelligence and Journalism: The Emergence of a New Journalistic Paradigm, Routledge, Taylor & Francis (*Upcoming* 2023)



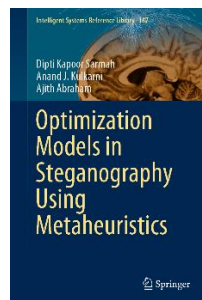
2. Kale, I.R., **Kulkarni, A.J.**: Constraint Handling in Cohort Intelligence Algorithm, Advances in Metaheuristics, CRC Press/Routledge (Taylor and Francis), (DOI: 10.1201/9781003245193; ISBN: 9781032150758)



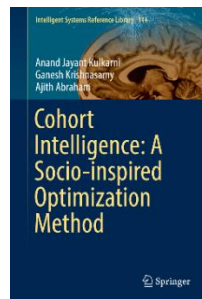
3. Shastri, A.S., Nargundkar, A., **Kulkarni, A.J.**: "Socio-inspired Optimization of Advanced Manufacturing Processes", Springer Series in Advanced Manufacturing, (2021) (DOI: 10.1007/978-981-15-7797-0; ISBN: 978-981-15-7797-0)



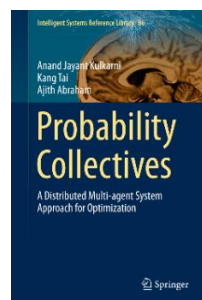
4. Sarmah, D., **Kulkarni, A.J.**, Abraham, A.: "Optimization Models in Steganography Using Metaheuristics", *Intelligent Systems Reference Library*, 187, (2020) Springer, (DOI: 10.1007/978-3-030-42044-4 (ISBN: 978-3-030-42044-4)



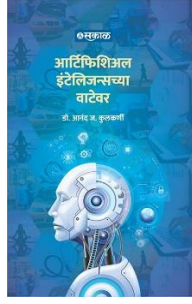
5. **Kulkarni, A.J.**, Krishnasamy, G., Abraham, A.: "Cohort Intelligence: A Socio-inspired Optimization Method", *Intelligent Systems Reference Library*, 114 (2017) Springer, (DOI: 10.1007/978-3-319-44254-9), (ISBN: 978-3-319-44254-9)



6. **Kulkarni, A.J.**, Tai, K., Abraham, A.: "Probability Collectives: A Distributed Multi-Agent System Approach for Optimization", *Intelligent Systems Reference Library*, 86 (2015) Springer, (DOI 10.1007/978-3-319-16000-9), (ISBN: 978-3-319-15999-7)

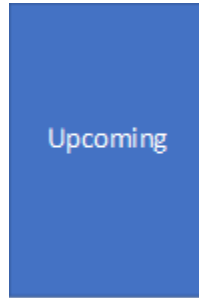


7. **कुलकर्णी आ.ज.:** आर्टिफिशिअल इंटेलिजन्सच्या वाटेवर, सकाळ पब्लिकेशन्स, जुलै १६, २०२२

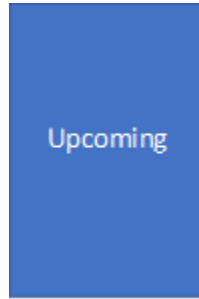


Edited Books/Volumes

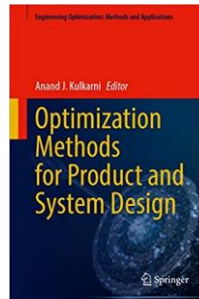
1. Ariffin, S., **Kulkarni A.J.**, On, C.K. Hijazi, M.H.A.: Intelligent Systems of Computing and Informatics, CRC Press/Routledge, Taylor and Francis, (*In Press: 2023*)



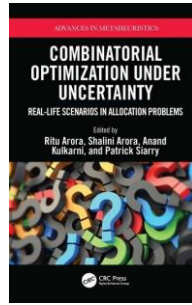
2. Shastri, A.S., Singh, M., **Kulkarni, A.J.**, Siarry, P.: AI Metaheuristics for Information Security and Digital Media, CRC Press/Routledge, Taylor and Francis, (*In Press: 2023*)



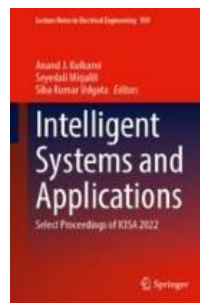
3. **Kulkarni A.J.:** Optimization in Product and Systems Design, Engineering Optimization: Methods and Applications, Springer (*In Press 2023*)



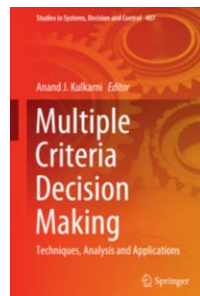
4. Arora, R., Arora, S., **Kulkarni, A.J.**, Siarry, P.: Combinatorial Optimization with Uncertainty, Advances in Metaheuristics, CRC Press, Taylor & Francis (*In Press: 2023*) (ISBN 978-103-23-1658-1)



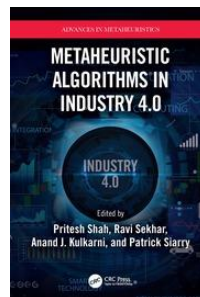
5. **Kulkarni, A.J.**, Mirjalili, S., Udgata, S.: Proceedings of Intelligent Systems and Applications, Lecture Notes in Electrical Engineering, Springer, 2022 (*In Press: 2023*) (ISBN: 978-981-19-6580-7)



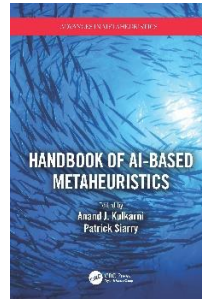
6. **Kulkarni, A.J.**: "Multiple Criteria Decision Making – Techniques, Analysis and Applications", *Studies in Systems, Decision and Control*, Springer, 407, (2022), (ISBN 978-981-16-7414-3), (ISBN 978-981-16-7414-3)



7. Shah, P., Ravi, S., **Kulkarni, A.J.**, Siarry, P.: Metaheuristic Algorithms in Industry 4.0, Advances in Metaheuristics, CRC Press/Routledge (Taylor and Francis), (2021) (DOI: 10.1201/978-1-003-14350-5) (ISBN 978-036-769-839-3)



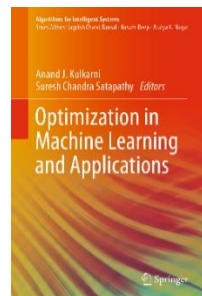
8. **Kulkarni, A.J.**, Siarry, P.: Handbook of AI-based Metaheuristics, Advances in Metaheuristics, CRC Press/Routledge (Taylor and Francis), (2021) (DOI: 10.1201/978-1-003-16284-1) (ISBN: 978-036-775-303-0)



9. **Kulkarni, A.J.**, Mezura-Montes, E., Wong, Y., Gandomi, A.H., Krishnasamy, G.: Constraint Handling in Metaheuristics and Applications, (2021), Springer, (DOI: 10.1007/978-981-33-6710-4), (ISBN: 978-981-336-710-4)



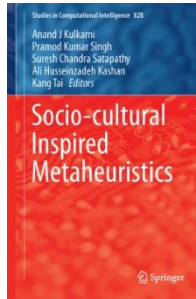
10. **Kulkarni, A.J.**, **Satapathy S.C.**: Optimization in Machine Learning and Applications, *Algorithms for Intelligent Systems*, (2020), Springer, (DOI: 10.1007/978-981-15-0994-0), (ISBN: 978-981-15-0994-0)



11. **Kulkarni, A.J.**, Siarry, P., Singh, P.K., Abraham, A., Zhang, M., Zomaya, A., Baki, F.: Big Data Analytics in Healthcare, *Studies in Big Data*, 66, (2020), Springer, (DOI: 10.1007/978-3-030-31672-3), (ISBN: 978-3-030-31672-3)



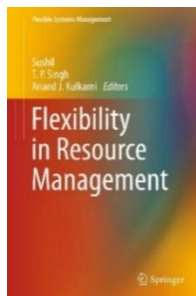
12. **Kulkarni, A.J.**, Singh, P.K., Satapathy, S.C., Ali, H.K., Tai, K.: Socio-cultural Inspired Metaheuristics, *Studies in Computational Intelligence*, 828 (2019) Springer, (DOI: 10.1007/978-981-13-6569-0), (ISBN: 978-981-13-6569-0)



13. **Kulkarni, A.J.**, Satapathy, S.C., Ali, K., Tai, K.: "Proceedings of the International Conference on Data Engineering and Communication Technology", *Advances in Intelligent Systems and Computing*, 828 (2019) Springer, (DOI: 10.1007/978-981-13-1610-4), (ISBN: 978-981-13-1610-4)



14. Sushil, Singh, T.P., **Kulkarni, A.J.** Eds (2017): "Flexibility in Resource Management", *Flexible Systems Management*, 2017, Springer, (ISBN: 978-981-10-4887-6)



Editorial

Kulkarni A.J., Kashan A.H. (2021): Socio-cultural Inspired Metaheuristics, *Soft Computing Letters*, Paper ID 100030

Journal Papers

1. Reddy, R., **Kulkarni, A.J.**, Shstri, A.S., Krishnasamy, G., Gandomi, A.H. (2023): LAB: A Leader-Advocate-Believer based Optimization Algorithm, (*In Press: Soft Computing*), Springer, (**IF: 3.732**)
2. **Kulkarni, A.J.** (2023): Ontology based Natural Language Processing for Sentimental Knowledge analysis Using Deep Learning Architectures, (*In Press: ACM Transactions on Asian and Low-Resource Language Information Processing*) (**IF: 1.471**)

3. Nargundkar, A., **Kulkarni, A.J.** (2023): Application of Cohort Intelligence Algorithm for Goal Programming Problems with Improved Constraint Handling Method, (*In Press: International Journal of Bio-Inspired Computation*) (**IF: 3.295**)
4. Marak, Z.R., Ambarkhane, D., **Kulkarni, A.J.** (2022): Application of Artificial Neural Network Model in Predicting Profitability of Indian Banks, *International Journal of Knowledge-Based and Intelligent Engineering Systems*, 26(3), pp 159-173
5. Patil, M.V., Kumar S., **Kulkarni, A.J.** (2022): Multi Stopping Criterion Multi Feature based Multiobjective Cohort Intelligence Algorithm for Thermoacoustic Engine Optimization, *International Journal of Modelling, Identification and Control*, 40(4), pp 356-370 (**IF: 0.25**)
6. Sapre, M.S., **Kulkarni, A.J.**, Chettiar, L., Deshpande, I. Piprikar, B. (2021): Mesh Smoothing of Complex Geometry using Variations of Cohort Intelligence Algorithm, *Evolutionary Intelligence*, 14, 227–242
7. Kale, I.R., **Kulkarni, A.J.** (2021): Cohort Intelligence with self-adaptive penalty function approach hybridized with colliding bodies optimization algorithm for discrete and mixed variable constrained problems, *Complex and Intelligent Systems*, 7, pp 1565–1596 (**IF: 6.700**)
8. Shastri, A.S., Nargundkar, A., **Kulkarni, A.J.** Benedicenti, L. (2021): Optimization of Process Parameters for Turning of Titanium Alloy (Grade II) in MQL Environment using Multi-CI Algorithm, *SN Applied Sciences*, 3(2), pp 1-12
9. Bannur P., Gujrathi, P., Jain, K., **Kulkarni, A.J.** (2020): Application of Swarm Robotic System in a Dynamic Environment using Cohort Intelligence, *Soft Computing Letters*, 2, Paper ID 100006
10. Patil, M.V., **Kulkarni, A.J.** (2020): Pareto Dominance based Multiobjective Cohort Intelligence Algorithm, *Information Sciences*, 538, pp 69-118 (**IF: 8.233**)
11. Shastri, A.S., Nargundkar, A., **Kulkarni, A.J.**, Sharma, K.K. (2020): Multi-Cohort Intelligence Algorithm for solving Advanced Manufacturing Process Problems, *Neural Computing and Applications*, 32, pp 15055–15075 (**IF: 5.102**)
12. Iyer, V.H., Mahesh, S., Malpani, R., Sapre, M.S., **Kulkarni, A.J.** (2019): Adaptive Range Genetic Algorithm: A Hybrid Optimization Approach and its Application in the Design and Economic Optimization of Shell-and-Tube Heat Exchanger, *Engineering Applications of Artificial Intelligence*, 85, pp 444-461 (**IF: 7.802**)
13. Sarmah, D., **Kulkarni, A.J.** (2019): Improved Cohort Intelligence-a High Capacity, Swift and Secure Approach on JPEG image Steganography, *Journal of Information Security and Applications*, 45, pp 90-106 (**IF: 4.960**)
14. Shastri, A.S., **Kulkarni, A.J.** (2018): Multi-Cohort Intelligence Algorithm: An Intra- and Inter-group Learning Behavior based Socio-inspired Optimization Methodology, *International Journal of Parallel, Emergent and Distributed Systems*, 33(6), pp 675-715
15. Sarmah, D., **Kulkarni, A.J.** (2018): "JPEG based Steganography Methods using Cohort Intelligence with Cognitive Computing and Modified Multi Random Start Local Search Optimization Algorithms", *Information Sciences*, 430-431, PP 378-396 (**IF: 8.233**)
16. Kumar, M., **Kulkarni, A.J.**, Satapathy, S.C. (2018): "Socio Evolution & Learning Optimization Algorithm: A Socio-inspired Optimization Methodology", *Future Generation Computer Systems*, 81, pp 252-272 (**IF: 7.307**)
17. Sarmah, D., **Kulkarni, A.J.** (2018): "Image Steganography Capacity Improvement using Cohort Intelligence and Modified Multi Random Start Local Search Methods", *Arabian Journal for Science and Engineering*, 43(8), pp 3927–3950 (**IF: 2.807**)
18. Patankar, N.S., **Kulkarni, A.J.** (2018): "Variations of Cohort Intelligence", *Soft Computing* 22(6), pp 1731-1747 (**IF: 3.732**)
19. Shah, P., Agashe, S., **Kulkarni, A.J.** (2018): "Design of Fractional PID Controller using Cohort Intelligence Method", *Frontiers of Information Technology & Electronic Engineering*, 19(3), pp 437–445 (**IF: 2.526**)

20. Chang, W.L., Kanesan, J., **Kulkarni A.J.**, Ramiah, H. (2017): "Data clustering using seed disperser ant algorithm", *Turkish Journal of Electrical Engineering & Computer Sciences*, Vol 2017(25), pp 4522-4532 (**IF: 0.853**)
21. Kale, I.R., **Kulkarni A.J.** (2017): "Cohort Intelligence Algorithm for Discrete and Mixed Variable Engineering Problems", *International Journal of Parallel, Emergent and Distributed Systems*, 33(6), pp 627-662
22. Dhavle, S.V., **Kulkarni, A.J.**, Shastri, A., Kale, I.R. (2017): "Design and Economic Optimization of Shell-and-Tube Heat Exchanger using Cohort Intelligence Algorithm", *Neural Computing and Applications*, 30(1), pp 111–125 (**IF: 5.102**)
23. Teo, T.H., **Kulkarni, A.J.**, Kanesan, J., Chuah, J.H., Abraham, A. (2017): "Ideology Algorithm: A Socio-inspired Optimization Methodology", *Neural Computing and Applications*, 28(1), pp 845-876 (**IF: 5.102**)
24. Kulkarni, O., Kulkarni, N., **Kulkarni, A.J.**, Kakandikar, G. (2016): "Constrained Cohort Intelligence using Static and Dynamic Penalty Function Approach for Mechanical Components Design", *International Journal of Parallel, Emergent and Distributed Systems*, 33(6), pp 570-588
25. **Kulkarni, A.J.**, Kale, I.R., Tai, K. (2016) "Probability Collectives for Solving Discrete and Mixed Variable Problems", *International Journal of Computer Aided Engineering and Technology*, 8(4), pp. 325-361
26. **Kulkarni, A.J.**, Shabir, H. (2016): "Solving 0-1 Knapsack Problem using Cohort Intelligence Algorithm". *International Journal of Machine Learning and Cybernetics*, 7(3), pp. 427-441 (**IF: 4.377**)
27. **Kulkarni, A.J.**, Baki, M.F., Chaouch, B.A. (2016): "Application of the Cohort-Intelligence Optimization Method to Three Selected Combinatorial Optimization Problems", *European Journal of Operational Research*, 250(2), pp. 427-447 (**IF: 6.363**)
28. **Kulkarni, A.J.**, Patankar, N.S., Tai, K. (2016) "Constraint Handling in Probability Collectives using A Modified Feasibility-based Rule", *International Journal of Computational Science and Engineering*, 13(4), pp. 303-321
29. Patankar, N.S., **Kulkarni, A.J.**, Tai, K., Ghate, T.D, Parvate, A.R. (2014): "Multi-criteria Probability Collectives", *International Journal of Bio-Inspired Computation*, 6(6), pp. 369-383 (**IF: 3.295**)
30. Krishnasamy, G., **Kulkarni A.J.**, Paramesaran, R. (2014): "A hybrid approach for data clustering based on modified cohort intelligence and K-means", *Expert Systems with Applications*, 41(13), pp. 6009-6016 (**IF: 8.665**)
31. Azad, S.K., Azad, S.K., **Kulkarni, A.J.** (2012) "Structural Optimization using a Mutation-based Genetic Algorithm", *International Journal of Optimization in Civil Engineering*, 2(1), pp. 80-100
32. **Kulkarni, A.J.** and Tai, K. (2011) "Solving Constrained Optimization Problems Using Probability Collectives and a Penalty Function Approach", *International Journal of Computational Intelligence and Applications*, 10(4), pp. 445-470
33. **Kulkarni, A.J.** and Tai, K. (2011) "A Probability Collectives Approach with a Feasibility-based Rule for Constrained Optimization", *Applied Computational Intelligence and Soft Computing*, Vol. 2011, Article ID 980216
34. **Kulkarni, A.J.** and Mayorga, R.V. (2010) "Artificial Neural Network Optimization using Layer Partition and Genetic Algorithms along with Statistical Analysis", *Computational Intelligence Research*, 6 (1), pp. 77-87
35. **Kulkarni, A.J.** and Tai, K. (2010) "Probability Collectives: A Multi-Agent Approach for Solving Combinatorial Optimization Problems", *Applied Soft Computing*, 10(3), pp. 759-771 (**IF: 8.263**)

Book Chapters

36. Zakeri, S., Konstantas, D., Yan, K., **Kulkarni, A.J.**: The competitive game table and the competitive game optimization algorithm, Springer Handbook of Formal Optimization Methods, 2023

37. Murugesan, D., Jagatheesan, K., **Kulkarni, A.J.**, Surendiran, S.: A Socio Inspired Technique in Nuclear Power Plant for Load Frequency Control by using Cohort Intelligence Optimization-based PID Controller, in Khosla, A., Aggarwal, M. (Eds), Renewable Energy Optimization, Planning and Control, *Studies in Infrastructure and Control*, Springer (*In Press*)
38. Shastri, A.S., **Kulkarni, A.J.** (2021): Constraint Handling in Multi-Cohort Intelligence Algorithm, in Kulkarni, A.J., Siarry, P. (Eds), Handbook of AI-based Metaheuristics, *Advances in Metaheuristics*, CRC Press, pp 283-298
39. Krishnasamy, G., **Kulkarni, A.J.**, Shastri, A.S. (2021): An improved Cohort Intelligence with Panoptic Learning Behavior for solving constrained problems, in Kulkarni, A.J., Mezura-Montes, E., Wong, Y., Gandomi, A.H., Krishnasamy, G. (Eds), in Constraint Handling in Metaheuristics and Applications, Springer, pp 29-54
40. Kumar, M., **Kulkarni, A.J.**, Satapathy, S.C. (2020): "A Hybridized Data Clustering for Breast Cancer Prognosis and Risk Exposure Using Fuzzy C-means and Cohort Intelligence", in Kulkarni, A.J., Satapathy, S.C. (Eds.), in Optimization in Machine Learning and Applications, *Algorithms for Intelligent Systems*, Springer, pp. 113-126
41. Nargundkar, A., **Kulkarni, A.J.** (2020): 'Big Data in Supply Chain Management and Medicinal Domain', in Kulkarni, A.J., Siarry, P., Singh, P.K., Abraham, A., Zhang, M., Zomaya, A., Baki, F. (Eds): Big Data Analytics in Healthcare, *Studies in Big Data*, Vol 66, Springer, pp. 45-54
42. Roychowdhury, P., Mehra, S., Devarakonda, R., Shrivastava, P., Basu, S., **Kulkarni, A.J.** (2019): "A Self-organizing Multi-agent Cooperative Robotic System: An Application of Cohort Intelligence Algorithm", in Kulkarni, A.J., Singh, P.K., Satapathy, S.C., Husseinzadeh, K. A., Tai, K. (Eds), in Socio-cultural Inspired Metaheuristics, *Studies in Computational Intelligence*, Vol 828, Springer, pp. 27-40
43. Marde, K. and **Kulkarni, A.J.** (2019): "Optimum Design of Four Mechanical Elements Using Cohort Intelligence Algorithm", in Kulkarni, A.J., Singh, P.K., Satapathy, S.C., Husseinzadeh, K. A., Tai, K. (Eds), in Socio-cultural Inspired Metaheuristics, *Studies in Computational Intelligence*, Vol 828, Springer, pp. 1-25
44. Kale, I. and **Kulkarni, A.J.** (2019): "A Socio-based Cohort Intelligence Algorithm for Engineering Problems", in Kulkarni, A.J., Singh, P.K., Satapathy, S.C., Husseinzadeh, K. A., Tai, K. (Eds), in Socio-cultural Inspired Metaheuristics, *Studies in Computational Intelligence*, Vol 828, Springer, pp. 121-135
45. Shah, P. and **Kulkarni, A.J.** (2019): "Application of Variations of Cohort Intelligence in Designing Fractional PID Controller for Various Systems", in Kulkarni, A.J., Singh, P.K., Satapathy, S.C., Husseinzadeh, K. A., Tai, K. (Eds), in Socio-cultural Inspired Metaheuristics, *Studies in Computational Intelligence*, Vol 828, Springer, pp. 175-192
46. Shastri, A.S., Jagetia, A., Sehgal, A., Patel, M., **Kulkarni, A.J.** (2019): "Expectation Algorithm (ExA): A Socio-inspired Optimization Methodology", in Kulkarni, A.J., Singh, P.K., Satapathy, S.C., Husseinzadeh, K. A., Tai, K. (Eds), in Socio-cultural Inspired Metaheuristics, *Studies in Computational Intelligence*, Vol 828, Springer, pp. 193-214
47. Kumar, M. and **Kulkarni, A.J.** (2019): "Socio-inspired Optimization Metaheuristics: A Review", Kulkarni, A.J., Singh, P.K., Satapathy, S.C., Husseinzadeh, K. A., Tai, K. (Eds), in Socio-cultural Inspired Metaheuristics, *Studies in Computational Intelligence*, Vol 828, Springer, pp. 241-265
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49. **Kulkarni, A.J.** and Tai, K. (2009): "Probability Collectives: A Decentralized, Distributed Optimization for Multi-Agent Systems", in Advances in Intelligent and Soft Computing 58: *Applications of Soft Computing*, J. Mehnen, M. Koeppen, A. Saad, A Tiwari (Eds), Vol 58, Springer, pp. 441-450

Conference Papers

50. Tapadia, A., Vullamparthi, S. Yadav, R., **Kulkarni, A.J.**, Kale, P. (2023): Probabilistic Harmony Search Algorithm: Fitness Proportionate Selection Variants, In Proceedings: Intelligent Systems and Applications, Lecture Notes in Electrical Engineering, **Kulkarni, A.J.**, Mirjalili, S., Udgata, S.K. (Eds) Springer, Vol 959, pp 423-433
51. Sapre, M.S., **A.J. Kulkarni**, I.R. Kale, M.S. Pande (2023) Application of Cohort Intelligence Algorithm for Numerical Integration, In Proceedings: Intelligent Systems and Applications, Lecture Notes in Electrical Engineering, **Kulkarni, A.J.**, Mirjalili, S., Udgata, S.K. (Eds) Springer, Vol 959, pp 445-453
52. Murugesan, D., Shah, P., Jagatheesan, K., Sekhar, R. **Kulkarni, A.J.** (2022): Cohort intelligence optimization-based controller design of isolated and interconnected thermal power system for automatic generation control, IEEE Second International Conference on Computer Science, Engineering and Applications, pp. 1-6
53. Shastri, A.S., Nargundkar, A., **Kulkarni, A.J.** (2021): Modified Multi-cohort Intelligence Algorithm with Panoptic Learning for Unconstrained Problems, *Intelligent Data Engineering and Analytics*, Satapathy, S., Zhang, Y.D., Bhateja, V., Majhi, R. (Eds), Springer, Vol 1177, pp 145-153
54. Shastri, A.S., Thorat, E.V., **Kulkarni, A.J.**, Jadhav, P.S. (2019): Optimization of Constrained Engineering Design Problems using Cohort Intelligence Method, *Advances in Intelligent and Soft Computing*, **Kulkarni, A.J.**, Satapathy, S.C., Tai, K., Kashan, A.H. (Eds), Springer, Vol 828, pp. 1-11
55. Sapre, S.M., **Kulkarni, A.J.**, Shinde, S.S. (2019): Finite Element Mesh Smoothing Using Cohort Intelligence, *Advances in Intelligent and Soft Computing*, **Kulkarni, A.J.**, Satapathy, S.C., Tai, K., Kashan, A.H. (Eds), Springer, Vol 828, pp 469-480
56. Gaikwad, S., Joshi, R., **Kulkarni, A.J.** (2016): "Cohort Intelligence and Genetic Algorithm along with Modified Analytical Hierarchy Process to Recommend an Ice Cream to a Diabetic Patient", *Advances in Intelligent and Soft Computing*, Satapathy, S.C., Bhateja, V. Joshi, A. (Eds), Springer, Vol 468, pp. 279-288
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59. Chang, W.L., Kanesan, J., **Kulkarni, A.J.** (2015): "Seed Disperser Ant Algorithm: Ant Evolutionary Approach for Optimization", *Lecture Notes in Computer Science*, Vol 9028, Springer, pp. 643-654
60. Metkar, S.J., **Kulkarni, A.J.** (2014): "Boundary Searching Genetic Algorithm: A Multi-objective Approach for Constrained Problems", in *Advances in Intelligent and Soft Computing*, Satapathy, S.C., Biswal, B.N., Udgata, S.K. (Eds), Vol 247, Springer, pp. 269-276
61. **Kulkarni, A.J.**, Baki, F., Chaouch, B. (2014): A New Variant of the Assignment Problem: Application, NP-hardness and Algorithms, Optimization Days, Montreal, Canada, May 5-7, 2014
62. **Kulkarni, A.J.**, Durugkar I.P., Kumar M. (2013): "Cohort Intelligence: A Self Supervised Learning Behavior", in Proceedings of *IEEE International Conference on Systems, Man and Cybernetics*, Manchester, UK, 13-16 October 2013, pp. 1396-1400
63. Deshpande, A.M., Phatnani G.M., **Kulkarni, A.J.** (2013): "Constraint Handling in Firefly Algorithm", in Proceedings of *IEEE International Conference on Cybernetics*, Lausanne, Switzerland, 13-15 June 2013, pp. 186-190
64. **Kulkarni, A.J.**, Kale, I.R., Tai, K. (2013) "Probability Collectives for Solving Truss Structure Problems", in Proceedings of *10th World Congress on Structural and Multidisciplinary Optimization (WCSMO 2013)*, Orlando, Florida, USA, 19-24 May 2013, Paper ID: 5395

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71. **Kulkarni A.J.** and Mayorga, R.V. (2008) "Optimizing Artificial Neural Networks through Layer Partition and Genetic Algorithms", in Proceedings of the 2008 *SCIS & ISIS*, Nagoya, Japan, 17-21 September 2008, pp. 76-81
72. **Kulkarni, A.J.** and Mayorga, R.V. (2005) "The Design of the Spindle of the Cylindrical Grinding Machine through Neural Networks and Genetic Algorithm", in Proceedings of the *2nd Indian International Conference on Artificial Intelligence (IICAI 2005)*, Pune, India, 20-22 December 2005, pp. 3323-3336

Technical Reports

1. Bane, R., Mehendale, S., Hingorani, A., **Kulkarni, A.J.** (2013): Modified Probability Collectives Approach for Solving Engineering Problems. FYP Technical Report to OAT Research Lab, DOI: 10.13140/RG.2.2.33706.82881
2. **Kulkarni, A.J.**, Bahiram, M., Bagul, V., Bahirat, P., Bhosale, N. (2013): Solution to Benchmark Test Problems using Unconstrained Probability Collectives, DOI: 10.13140/RG.2.2.18607.33440
3. Othman, H., **Kulkarni, A.J.**, Ghosh, S., Wang F.Y. (2007): "The Feasibility Study of Shortening Queuing Time at Local Bank using System Simulation", Project Final Report, Nanyang Technological University, Singapore, November 2007, pp. 1-13

Articles in News Papers

1. **Kulkarni, A.J.**: राजकारण आणि कृत्रिम बुद्धिमत्ता (Politics and Artificial Intelligence), Sakal News Paper June 26, 2019
(www.esakal.com/sampadakiya/anand-kulkarni-writes-about-politics-and-artificial-intelligence-195810)
2. **Kulkarni, A.J.**: आर्टिफिशियल इंटेलिजन्स: शिक्षण क्षेत्रासाठी चांगले कि वाईट? (Artificial Intelligence for Education), Sakal News Paper Sep 3, 2019
(www.esakal.com/sampadakiya/article-about-artificial-intelligence-written-dr-anand-kulkarni-212674)
3. **Kulkarni, A.J.**: 'जितके सजीव तितक्या बुद्धिमत्ता' (Animals and Types of Intelligence), Sakal News Paper, December 8, 2020
(www.esakal.com/sampadakiya/anand-kulkarni-write-article-about-artificial-intelligence-382295)

4. **Kulkarni, A.J.:** 'शेतीसाठी कृत्रिम बुद्धिमत्ता' (Artificial Intelligence for Agriculture), Saptahik Sakal Magazine, January 9, 2021
(www.saptahiksakal.com/sakal-saptahik-artificial-intelligence-story-dr-ananda-j-kulkarni-marathi-article-4927)
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(www.saptahiksakal.com/sakal-saptahik-artificial-intelligence-story-dr-ananda-j-kulkarni-marathi-article-4991)
6. **Kulkarni, A.J.:** 'स्मार्ट होम्स: काल, आज आणि उद्या' (Smart Homes: Past, Present & Future), Saptahik Sakal Magazine, February 6, 2021
(www.saptahiksakal.com/sakal-saptahik-artificial-intelligence-story-dr-ananda-j-kulkarni-marathi-article-5035)
7. **Kulkarni, A.J.:** 'शिक्षण क्षेत्र आणि आर्टिफिशिअल इंटेलिजन्स' (Education Sector and Artificial Intelligence), Saptahik Sakal Magazine, February 13, 2021
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8. **Kulkarni, A.J.:** 'वाहतूक व्यवस्था आणि कृत्रिम बुद्धिमत्ता' (Traffic Management and Artificial Intelligence), Saptahik Sakal Magazine, February 27, 2021
(www.saptahiksakal.com/sakal-saptahik-artificial-intelligence-story-dr-ananda-j-kulkarni-marathi-article-5128)
9. **Kulkarni, A.J.:** 'गुन्हेगारी रोखण्यासाठी आर्टिफिशिअल इंटेलिजन्स' (Artificial Intelligence for Crime Prevention), Saptahik Sakal Magazine, March 13, 2021
(www.saptahiksakal.com/sakal-saptahik-artificial-intelligence-story-dr-ananda-j-kulkarni-marathi-article-5174)
10. **Kulkarni, A.J.:** 'उत्पादन क्षेत्रातील सकारात्मक बदलांच्या दिशेने' (Artificial Intelligence for Production Sector), Saptahik Sakal Magazine, March 27, 2021
(www.saptahiksakal.com/sakal-saptahik-artificial-intelligence-story-dr-anand-j-kulkarni-marathi-article-5225)
11. **Kulkarni, A.J.:** 'कचरा व्यवस्थापनासाठी कार्यक्षम पर्याय' (Artificial Intelligence for Waste Management), Saptahik Sakal Magazine, April 12, 2021, (www.saptahiksakal.com/sakal-saptahik-artificial-intelligence-story-dr-ananda-j-kulkarni-marathi-article-5286)
12. **Kulkarni, A.J.:** 'पाण्याच्या वितरण वितरणासाठी' (Artificial Intelligence for Water Distribution), Saptahik Sakal Magazine, April 27, 2021, (www.saptahiksakal.com/sakal-saptahik-artificial-intelligence-story-dr-ananda-j-kulkarni-marathi-article-5320)
13. **Kulkarni, A.J.:** 'तंत्रज्ञान वाचणार आपले मन' (Artificial Intelligence Reading Mind), Saptahik Sakal Magazine, May 10, 2021, (www.saptahiksakal.com/sakal-saptahik-artificial-intelligence-story-dr-ananda-j-kulkarni-marathi-article-5369)
14. **Kulkarni, A.J.:** 'मानवी संसाधनाच्या नियोजनासाठी आर्टिफिशिअल इंटेलिजन्स' (Artificial Intelligence for Human Resource Management), Saptahik Sakal Magazine, May 24, 2021, (www.saptahiksakal.com/sakal-saptahik-artificial-intelligence-story-dr-ananda-j-kulkarni-marathi-article-5437)
15. **Kulkarni, A.J.:** 'अन्न प्रक्रियेसाठी आर्टिफिशिअल इंटेलिजन्स' (Artificial Intelligence for Food Processing), Saptahik Sakal Magazine, June 7, 2021, (www.saptahiksakal.com/sakal-saptahik-artificial-intelligence-story-dr-ananda-j-kulkarni-marathi-article-5478)
16. **Kulkarni, A.J.:** 'बांधकाम क्षेत्रासाठी आर्टिफिशिअल इंटेलिजन्स' (Artificial Intelligence for Construction Sector), Saptahik Sakal Magazine, June 21, 2021, (www.saptahiksakal.com/sakal-saptahik-artificial-intelligence-story-dr-ananda-j-kulkarni-marathi-article-5513)

17. **Kulkarni, A.J.:** 'प्रदूषण नियंत्रणासाठी आर्टिफिशिअल इंटेलिजन्स' (Artificial Intelligence for Pollution Control), Saptahik Sakal Magazine, July 3, 2021, (www.saptahiksakal.com/sakal-saptahik-artificial-intelligence-story-dr-ananda-j-kulkarni-marathi-article-5559)
18. **Kulkarni, A.J.:** 'वन्यजीवन संवर्धनासाठी आर्टिफिशिअल इंटेलिजन्स' (Artificial Intelligence for Wildlife Conservation) Saptahik Sakal Magazine, July 17, 2021, (www.saptahiksakal.com/sakal-saptahik-artificial-intelligence-story-dr-ananda-j-kulkarni-marathi-article-5606)
19. **Kulkarni, A.J.:** आपत्ती व्यवस्थापनासाठी आर्टिफिशिअल इंटेलिजन्स (Artificial Intelligence for Effective Disaster Management) August 14, 2021, (www.saptahiksakal.com/sakal-saptahik-artificial-intelligence-story-dr-ananda-j-kulkarni-marathi-article-5703)
20. **Kulkarni, A.J.:** आर्टिफिशिअल इंटेलिजन्सच्या इतिहासाचा लेखाजोखा (Survey of the History of Artificial Intelligence) August 28, 2021, (www.saptahiksakal.com/sakal-saptahik-artificial-intelligence-story-dr-ananda-j-kulkarni-marathi-article-5745)
21. **Kulkarni, A.J.:** आर्टिफिशिअल इंटेलिजन्सबद्दलचे ग्रह, जोखीम आणि सकारात्मकता (Opinion, Risk and Positivity about Artificial Intelligence), September, 11, 2021, (www.saptahiksakal.com/sakal-saptahik-artificial-intelligence-story-dr-ananda-j-kulkarni-marathi-article-5794)
22. **Kulkarni, A.J.:** उत्पादन क्षेत्रातील गुणवत्ता नियंत्रणासाठी आर्टिफिशिअल इंटेलिजन्स (Artificial Intelligence for Quality Control), September 27, 2021, (www.saptahiksakal.com/sakal-saptahik-artificial-intelligence-story-dr-ananda-j-kulkarni-marathi-article-5839)
23. **Kulkarni, A.J.:** दागिने उद्योगासाठी आर्टिफिशिअल इंटेलिजन्स (Artificial Intelligence in Jewelry Making), October 11, 2021, (www.saptahiksakal.com/sakal-saptahik-artificial-intelligence-story-dr-ananda-j-kulkarni-marathi-article-5890)
24. **Kulkarni, A.J.:** कल भावी तंत्रज्ञानाचा (Trend of Technology Tomorrow), November 22, 2021, (www.saptahiksakal.com/sakal-saptahik-artificial-intelligence-story-dr-ananda-j-kulkarni-marathi-article-5953)
25. **Kulkarni, A.J.:** रोजच्या वापरातील आर्टिफिशिअल इंटेलिजन्स (Artificial Intelligence in Day-to-day Life) www.saptahiksakal.com/sakal-saptahik-artificial-intelligence-story-dr-ananda-j-kulkarni-marathi-article-6043
26. **Kulkarni, A.J., Biswal S.K.:** (The Next big thing in journalism) www.dailypioneer.com/2021/columnists/the-next-big-thing--in-journalism.html

Workshops and Others

1. **Kulkarni, A.J.** and Tai, K. (2012) 'Probability Collectives: A Distributed Multi-Agent System Approach for Optimization of Complex Systems' at IEEE Hybrid Intelligent Systems, Pune, India, Dec' 05, 2012
2. **Kulkarni, A.J.** and Tai, K. (2010) "Probability Collectives: A Decentralized, Distributed Optimization of Complex Systems - II", in Graduate Student Workshop, Jointly Organized by IEEE Power & Eng. Society and IEEE Industry Applications / Power Electronics Joint Chapter, National University of Singapore, 19 October 2010
3. **Kulkarni, A.J.** and Tai, K. (2009) "Probability Collectives for Distributed, Decentralized Optimization of Complex Systems", in Interdisciplinary Conference on Adaptation, Order and Emergence- A Tribute to Dr. John Holland, (Poster Presentation), Nanyang Technological University, Singapore, February 12, 2009
4. **Kulkarni, A.J.** and Kulkarni, S.P. (2002) "Advanced Trends in Production Technology", in Proceedings of Quantum-2002, National Level Technical Symposium, Shivaji University, MH, India, March 26-27, 2002

5. **Kulkarni, A.J.** and Hiremath, P.G. (2000) "Pollution Reducer for Stationary Diesel Engines", in Proceedings of Vision-2000, 12th National Level Technical Meet, Shivaji University, MH, India, February 25-27, 2000
6. **Kulkarni, A.J.** and Gangapure, A.T. (2000) "Smart Sensors in Hydro-Electric Power Station", in Proceedings of Technoglimpse-2000, 4th State Level Paper Technical Symposium, Shivaji University, MH, India, March 2, 2000

Fellowships/Scholarships/Awards

- ✓ Cross-border (USA-CANADA) Institute Fellowship from Nov' 2013-Nov' 2014
- ✓ Graduate Research Scholarship awarded from Aug' 2007-Aug' 2011
- ✓ IEEE SMC Conference Grant awarded by 'IEEE SMC' for the International Conference on Systems, Man, and Cybernetics (SMC 2008), Singapore, 12-15 Oct' 2008
- ✓ 'Third Best Research Proposal' Award (\$250) at the PhD Consortium 'IEEE ICNSC' at Chicago 10-12 Apr' 2010
- ✓ NTU Student Oversea Travel Grant awarded for PhD Consortium held in conjunction with 'IEEE ICNSC' at Chicago 10-12 Apr' 2010
- ✓ ICNSC Doctoral Consortium Grant awarded by 'IEEE ICNSC' for the PhD Consortium held in conjunction with 'IEEE ICNSC' at Chicago 10-12 Apr' 2010

Research Students

- ✓ **Doctoral:** 4 (Four) Completed, 2 (Two) Ongoing
 1. **Dipti Kapoor Sarmah (May 2019)**
Thesis: Development of High Capacity and Robust Image Steganography Method using Cohort Intelligence Optimization Algorithm
 2. **Meeta Kumar (February 2020)**
Thesis: Development of a Novel Socio-Inspired Metaheuristic Optimization Algorithm
 3. **Ishaan Kale (January 2021)**
Thesis: Investigation of Cohort Intelligence Algorithm for Mechanical Engineering Problems Involving Discrete and Mixed Variables
 4. **Apoorva S Shastri**
Thesis: Development and Application of Multi-Cohort Intelligence (Multi-CI) Algorithm for Solving Advanced Manufacturing Process Problems
- ✓ **Master's:** Five (5) Completed
- ✓ **Bachelor's:** Forty-Five (45) Completed
- ✓ **Research Associates:** 6 (six)

Courses Taught

1. Research Methodology in Engineering (PhD and PG/PhD)
2. Optimization Methods (PhD and PG/PhD)
3. Computational and Numerical Methods (PhD and PG/PhD)
4. Artificial Intelligence (PG)
5. Industrial Automation and Robotics (PhD and PG)
6. Robotics (UG)

Professional Activities

Book Series



- ✓ **Engineering Optimization: Methods and Applications** ([Link](#)) (ISSN: 2731-4049) (June 2021-ongoing)
Series Editors: **Kulkarni, A.J.**, Gandomi, A.H., Mirjalili, S.A., Lagaros, N.D., Liao, T.W.



- ✓ **Advances in Metaheuristics** ([Link](#)) (Jan 2021-ongoing)
Series Editors: **Kulkarni, A.J.** & Siarry, P.

Journal Editorial Responsibilities



ELSEVIER

- ✓ **Associate Editor:** 'Engineering Applications of Artificial Intelligence', Elsevier (January 2022-ongoing)
- ✓ **Associate Editor:** 'Systems and Soft Computing', Elsevier (January 2021-ongoing)



Editor in Chief: Handbook of Formal Optimization, Springer Major Reference Work (August 2022-ongoing)

Special Issue/Topical Collection Editor

- ✓ Special Issue on 'Metaheuristics for Sustainable Supply Chain Management' in 'Engineering Applications of Artificial Intelligence', Elsevier (Oct 2022-ongoing)
- ✓ Topical Collection on 'Metaheuristics for Machining Processes' in Springer Nature Applied Sciences (2020-2021)
- ✓ Topical Issue on 'Machine Learning for Pandemic Prediction and Control' in Springer Nature Computer Science (2020-2021)
- ✓ Special Issue 'Socio-cultural Inspired Metaheuristics' in 'Soft Computing Letters' (Elsevier) (2020-2021)

Founder and Chair

- ✓ Optimization and Agent Technology (OAT) Research Lab: An International Research Organization

Managing Editor (Feb' 2012 – May 2013)

- ✓ Journal: International Journal of Computer Information Systems and Industrial Management Applications (IJCISIM)

Vice President

- ✓ Central India Alumni Association: Nanyang Technological University, Singapore

Special Session Chair

- ✓ Special Session on 'Big data Analytics using Nature Inspired Algorithms' at 2015 IEEE Systems, Man and Cybernetics (IEEE SMC 2015), Hong Kong
- ✓ Special Session on 'Swarm Intelligence in Transportation' at 18th Asia Pacific Symposium on Intelligent and Evolutionary Systems (IES 2014), Singapore
- ✓ Special Session on 'Distributed Optimization and Collective Intelligence' at 2013 IEEE Systems, Man and Cybernetics (IEEE SMC 2013), Manchester, UK

- ✓ Special Session on 'Soft Computing' at 2013 IEEE International Conference on Cybernetics (IEEE CYBCONF 2013), Lausanne, Switzerland
- ✓ Special Session on 'Distributed Optimization and Collective Intelligence' at 2013 IEEE Congress on Evolutionary Computation (IEEE CEC 2013), Cancun, Mexico
- ✓ Special Session on 'Multi-agent Systems in Optimization' at 12th IEEE Hybrid Intelligent Systems (IEEE HIS 2012), Pune, India

General Chair/Secretariat

- ✓ Advisor: International Conference on Modeling, Simulations, and Optimizations (CoMSO-2022) December 21-23, 2022, NIT Silchar, Assam, India
- ✓ 1st International Conference on Intelligent Systems and Applications, Institute of Artificial Intelligence, MIT World Peace University, Pune, MH, India, May 4-6, 2022
- ✓ 2nd International Conference on Data Engineering and Communication Technology (ICDECT 17), Symbiosis International University Pune, India, December 15 & 16, 2017
- ✓ 15th Global Conference on Flexible Systems Management (GLOGIFT 15), Symbiosis International University Pune, India, October 23–25, 2015

Invited Research Talks/Visits

- ✓ Amity University UP, India, 8th Global Leadership Research Conference (GLRC 2023), March 13, 2023 (Topic: Cohort Intelligence Method and Applications)
- ✓ JIT Nagpur, AI-based Nature Inspired Optimization Methods, Jan 9-13, 2023
- ✓ IGSMIP International, VC, Australia, Dec 9, 2022, Artificial Intelligence, Machine Learning and Robotics (Topic: Cohort Intelligence for Swarm Robotics)
- ✓ Keynote Speaker at International Conference on Modeling, Simulations, and Optimizations (CoMSO-2022) December 21-23, 2022, NIT Silchar, Assam, India
- ✓ NIET, NIMS University, Jaipur, India Dec 8, 2022 (Topic: AI applications in healthcare)
- ✓ JSS Science and Technology University, National Workshop on Deep Learning and Its Applications, Nov 14, 2022 (Chief Guest and Speaker, Topic: Perceptron and Applications)
- ✓ KLE Technological University, Dr. MSSCET Belagavi, Oct 7, 2022 (Topic: Optimization Algorithms)
- ✓ JSS Science and Technology University, Mysuru, India, Sep 5, 2022, A National Level Workshop (Topic: Data Analytics and Learning)
- ✓ MITWPU Mechanical Engineering: Oct 11, 2021 (Topic: Cohort Intelligence for Mechanical Engineering Problems)
- ✓ Rajarambapu Institute of Technology, Sangli, October 1, 2021 STTP on Optimization (Topic: Evolutionary and Socio-inspired Optimization Algorithms)
- ✓ MITWPU Polymer Engineering: July 20, 2021 (Topic: Introduction to Artificial Intelligence with Applications to Polymer Engineering)
- ✓ MITWPU SCET: July 8, 2021 (Topic: Research Publications, Grants and Funding Proposals)
- ✓ Springer Conference: ISDA 2020, Dec 18, 2020 (Topic: AI based Optimization of Micro-machining Processes)
- ✓ RMK College of Engineering and Technology, TN, India, AICTE STTP, Oct 24, 2020 (Topic: Optimization of Micro-machining Processes)
- ✓ Coimbatore Institute of Technology, May 30, 2020, PMMMNMTT Govt of India (Topic: Cohort Intelligence Algorithm)
- ✓ Keynote Speaker at E-Tonomy 2019, Les Mureaux, France, Oct 9-10, 2019 (Topic: A Cohort Intelligence based Robotics for helping Disabled People for Swimming and Rescue)
- ✓ Coimbatore Institute of Technology, July 18, 2019, PMMMNMTT Govt of India (Topic: Cohort Intelligence Algorithm: Technical Analysis and Case Study)
- ✓ Symbiosis International (Deemed University), Pune, March 25-29, 2019 (FDP on Optimization Techniques and Computational Intelligence)
- ✓ Rajarambapu Inst of Tech, Sangli, April 16, 2018 (Topic: Basics of Optimization)
- ✓ Sinhgad College of Eng, Pune, January 9, 2018 (Topic: Basics of Optimization)
- ✓ Rajarambapu Inst of Tech, Sangli, November 23, 2017 (Topic: Socio-inspired Optimization Methods and Applications)
- ✓ Vishwakarma Inst of Info Tech, Pune, October 24, 2017 (Topic: Socio-inspired Optimization Methods)
- ✓ Optimization in Industry (2017) VIIT, India (June 05, 2017)
- ✓ PVP Siddhartha Institute of Technology, April 24-28, 2017, (Topic: Computational Intelligence & its Applications in Science and Engineering)
- ✓ University of Pune, India, (Workshop on Optimization Techniques with Research Perspective), Dec' 24, 2016 (Topic: Socio-inspired Optimization Methods)
- ✓ 6th International Conference on Innovations in Bio-Inspired Computing and Applications IBICA, Kochi, India, Dec' 17, 2015 (Topic: Introduction to Cohort Intelligence)

- ✓ Symbiosis International University, Oct' 21, 2015 (Topic: Quantitative Methods)
- ✓ Symbiosis International University, Sep' 15, 2015 (Topic: Encouraging Research and Writing)
- ✓ University of Malaya, Malaysia, July 01-11, 2015 (Topic: Cohort Intelligence and Recent Developments)
- ✓ University of Malaya, Malaysia, Dec' 12-22, 2014 (Topic: Distributed Optimization)
- ✓ University of Windsor, Canada, April 17, 2014 (Topic: Distributed Optimization and Swarm Intelligence)
- ✓ University of Malaya, Malaysia, July 22-26, 2013 (Topic: Development in Distributed and Decentralized Optimization)
- ✓ University of Pune, India, (International Workshop on Advances in Optimization), Jan' 30, 2015, (Topic: Distributed Optimization and Swarm Intelligence)
- ✓ University of Pune, India, (Design of Experiments and Optimization Techniques), June 04, 2015 (Topic: Probability Collectives and Cohort Intelligence)

Reviewer:

- ✓ Book:
 - Elsevier Book: Mechanics and Design for Product Life Prediction
 - CRC Press: Nature Inspired Optimization in Manufacturing Processes and Systems
 - Springer: *There are Many*

- ✓ Journals:
 - Neurocomputing (Elsevier)
 - European Journal of Operational Research (Elsevier)
 - Applied Soft Computing (Elsevier)
 - International Journal of Electrical Power and Energy Systems (Elsevier)
 - Information Sciences (Elsevier)
 - Expert Systems with Applications (Elsevier)
 - Signal Processing: Image Communication (Elsevier)
 - Scientia Iranica (Elsevier)
 - Engineering Science and Technology, an International Journal (Elsevier)
 - Neural Computing and Applications (Springer)
 - Structural and Multidisciplinary Optimization (Springer)
 - Soft Computing (Springer)
 - Journal of Zhejiang University SCIENCE C (Springer)
 - Arabian Journal of Science and Engineering (Springer)
 - Annals of Operations Research (Springer)
 - Computational Intelligence (Wiley)
 - Engineering Optimization (Taylor and Francis)
 - IEEE Transactions on Cybernetics (IEEE)
 - IEEE Access (IEEE)
 - ACM Computing Surveys
 - Structural Engineering and Mechanics (Techno Press)
 - Journal of Mechanical Engineering Science (Sage)
 - International Journal of Bioinspired Computations (Inderscience)
 - International Journal of Information Technology & Decision Making (World Scientific)
 - Part C: Journal of Mechanical Engineering Science
 - Algorithms (MDPI AG)
 - Computers (MDPI AG)
 - Sustainability (MDPI AG)
 - International Journal of Intelligent Computing and Cybernetics (Emerald)

- ✓ Conferences:
 - IEEE CEC 2019 (Wellington New Zealand), ICDECT 2017 (Pune, India), IEEE SMC 2017, IEEE CEC 2017, IBICA 2016, NaBIC 2016, WICT 2016, ISDA 2016, ICAART, 2017 (Porto, Portugal), IEEE SMC 2016 (Budapest, Hungary), IEEE IJCNN 2016 (Vancouver, Canada), IEEE WCCI 2016 (Vancouver, Canada), NaBIC 2015 (Pietermaritzburg, South Africa), IBICA 2015 (Kochi, India), IEEE IJCNN 2015 (Killarney, Ireland); IEEE IJCNN 2014 (Beijing, China); IEEE IJCNN 2013 (Dallas, USA); IJCNN 2012 (Brisbane, Australia); KEOD 2015 (Lisbon, Portugal), IEEE CEC 2015 (Sendai, Japan), SCDM 2015 (Malacca, Malaysia), IEEE SSCI 2014 (Orlando, USA), IEEE ISDA 2014 (Okinawa, Japan), IEEE SMC 2014 (San Diego, USA); KEOD 2014 (Rome, Italy); IEEE CEC 2014 (Beijing, China); KEOD 2013 (Vilamoura, Algarve, Portugal); IEEE SMC 2013 (Manchester, UK); IEEE CYBCONF 2013 (Lausanne, Switzerland); IEEE CEC 2013 (Cancun, Mexico); IEEEWICT 2012 (Trivandrum, India); IEEE HIS 2012 (Pune, India); 2011 (San Jose, USA); IEEE CEC 2011 (New Orleans, USA); FLAIRS-24 2011 (Florida, USA); IEEE WCCI 2010 (Barcelona, SPAIN)

Program Committee Member

HIS 2016, IBICA 2016, NaBIC 2016, WICT 2016, ISDA 2016, ICAART, 2017 (Porto, Portugal), IEEE SMC 2016 (Budapest, Hungary), IEEE IJCNN 2016 (Vancouver, Canada), IEEE WCCI 2016 (Vancouver, Canada), NaBIC 2015 (Pietermaritzburg, South Africa), IBICA 2015 (Kochi, India), IES 2015 (Bangkok, Thailand), KEOD 2015 (Lisbon, Portugal), KEOD 2014 (Rome, Italy), KEOD 2013 (Vilamoura, Portugal), IEEE SMC 2014 (San Diego, USA), IEEE SMC 2013 (Manchester, UK), IEEE ISDA 2014 (Okinawa, Japan), IEEE SoCPaR 2014 (Tunis, Tunisia), IES 2014 (Singapore), IEEE WICT 2014 (Melaka, Malaysia), IEEE WICT 2013 (Hanoi, Vietnam), IEEE WICT 2012 (Trivandrum, India), IEEE NaBIC 2014 (Porto, Portugal), IEEE CASoN 2014 (Porto, Portugal), IEEE CEC 2014 (Beijing, China), IEEE CYBCONF (Lausanne, Switzerland), FLAIRS-24 2011 (Palm Beach, Florida, USA)

Technical/Scientific Committee Member

- ✓ IEEE SMC Society Technical Committee on Soft Computing
- ✓ Special Session on 'Distributed Optimization and Collective Intelligence' at 2013 IEEE Systems, Man and Cybernetics (IEEE SMC 2013), Manchester, UK
- ✓ Special Session on 'Distributed Optimization and Collective Intelligence' at 2013 IEEE Congress on Evolutionary Computation (IEEE CEC 2013), Cancun, Mexico
- ✓ Special Session on 'Multi-agent Systems in Optimization' at 12th IEEE Hybrid Intelligent Systems (IEEE HIS 2012), Pune, India
- ✓ International Student Competition in Structural Optimization (ISCSO 2016, 2015, 2014, 2013, 2012, 2011)

Referee for Competitions/Quizzes

- ✓ DIPEX (2023, 2013), A State Research Project Exhibition and Competition, Pune, India
- ✓ MDCWC (2020), NIT Trichy, India (Oct 23, 2020)
- ✓ ICSDP (2019), MAE Pune (Nov 15, 2019)
- ✓ IET PATW (2017), VIIT, Pune University, India (April 01, 2017)
- ✓ AYATIST (2015), B J Medical College, Pune, India (Aug 29, 2015)
- ✓ National Technical Competition (Axelerate 2013, 2012, 2007), Maharashtra Inst. of Tech. Pune, India

Professional Memberships

- ✓ Member of IEEE Communications Society
- ✓ Member of the 'Young Researcher Committee' for World Federation of Soft Computing (WFSC)
- ✓ Member of the International Association of Engineers (IAENG)
- ✓ Assoc. Member of International Society for Structural and Multidisciplinary Optimization (ISSMO)
- ✓ Member of Machine Intelligence Research Labs (MIR Labs) USA

Computer Skills

MATLAB, AMPL

Hobbies

Sketching MeeNits (anandjkulkarni.blogspot.com), Water Coloring, Gardening, Fishkeeping

Part Time Experience

- 2004-2006 **Chef** with ARAMARK Food Services at University of Regina, SK, Canada
- ⇒ Survey of the International People and Marketing of the International Food at the University
 - ⇒ Chef for Athletes at Canada Summer Games 2005

I hereby declare that the statements made above are true to the best of my knowledge and belief. For further information, please feel free to contact me.

Dr Anand J Kulkarni

April 8, 2023