

SPECIAL SESSION SS29:

Swarm Intelligence in Optimizing Solution for Real-World Problems

Organizers:

Dr. S L Aarthy

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Dr.S.L. Aarthy completed the Ph.D. degree in Vellore Institute of Technology, in 2018 in the area of medical image processing. She received her M.E. degree in computer science from Anna University in 2010. She received her B.E. degree in computer science from Anna University, in 2007. Has 10 years of teaching experience and has been Assistant Professor (Senior) in the School of Information Technology and Engineering at Vellore Institute of Technology, Vellore. Organized and attended several workshops and FDPs. She actively involves her in the growth of the institute by contributing to various academic and technical committees. She is a life member of CSI and IEEE. She is also part of various school activity committees. She has published a good number of journal papers in her research field. Her research area includes Image Processing, Soft Computing, Data Mining, Machine Learning, and deep learning.

Dr. R Sujatha

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Dr.R. Sujatha completed the Ph.D. degree in the Vellore Institute of Technology, in 2017 in the area of data mining. She received her M.E. degree in computer science from Anna University in 2009 with university ninth rank and done Master of Financial Management from Pondicherry University in 2005. She received her B.E. degree in computer science from Madras University, in 2001. Has 15 years of teaching experience and has been serving as an associate professor in the School of Information Technology and Engineering at Vellore Institute of Technology, Vellore. Organized and attended a number of workshops and faculty development programs. She actively involves her in the growth of the institute by contributing to various committees at both the academic and administrative levels. She gives technical talks in colleges for a symposium and various sessions. She acts as an advisory, editorial member, and technical committee member in conferences conducted in other educational institutions and in-house too. She has published a book titled software project

management for college students. Also has published research articles and papers in reputed journals. She used to guide projects for undergraduate and postgraduate students. Currently guides doctoral students. Interested to explore different places and visit the same to know about the culture and people of various areas. She is interested in learning upcoming things and gets herself acquainted with the student's level. Her areas of research interest include Data mining, Machine learning, Image processing, and Management of Information systems.

Details of the Session

Swarm intelligence is the area that revolves around bio-inspired based computation. In the digital world data generated across the world grows exponentially. Processing of the raw data is required for deciding on this fast-growing technology. As mentioned about the big data, the number of attributes describing about the data also increases. Feature selection is a vital task in the machine learning perspective. The Swarm intelligence concept is being used extensively. Classification, clustering, association rule mining, regression, and other algorithms used for modeling the real-world problem for prediction, grouping, decision making, forecasting highly relies on the features. The performance of the system is highly required criteria that depend on the built model. Often swarm intelligence perspective evolved around the lifestyle of creatures like the ant, bat, bee, cuckoo, fish, cuckoo, firefly, wolf, bird's, and so on. Animals being in the group ensures the safety from the predators and for wellbeing bypassing the potential information without delay. Similarly, in the system for the flawless, fast processing of the huge data based on the characteristics of swarm intelligence is the evolving area.

A research area for this special session includes but not limited to:

1. A hybrid approach for disease prediction in crops
2. Metaheuristic approach for weather forecast
3. Swarm intelligence approach to detect intrusion detection
4. Swarm intelligence in designing robotics system
5. Cluster routing for wireless network using artificial intelligence
6. Bio-inspired algorithm for the medical-related application
7. Swarm intelligence for the infrared images
8. GPU based parallel application of swarm intelligence
9. The nature-inspired algorithm in telecommunications