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Emerging Research on Swarm Intelligence and Algorithm Optimization

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Emerging Research on Swarm Intelligence and Algorithm Optimization



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Yuhui Shi (Xi'an Jiaotong-Liverpool University, China)

Throughout time, scientists have looked to nature in order to understand and model solutions for complex real-world problems. In particular, the study of self-organizing entities, such as social insect populations, presents a new opportunity within the field of artificial intelligence.

Emerging Research on Swarm Intelligence and Algorithm Optimization discusses current research analyzing how the collective behavior of decentralized systems in the natural world can be applied to intelligent system design. Discussing the application of swarm principles, optimization techniques, and key algorithms being used in the field, this publication serves as an essential reference for academicians, upper-level students, IT developers, and IT theorists.

Topics Covered:

- Ant Colony Optimization
- Collective Biological Systems
- Computational Intelligence
- Differential Evolution

- Particle Swarm Optimization
- Scheduling
- Swarm Robotics

Market: This premier publication is essential for all academic and research library reference collections. It is a crucial tool for academicians, researchers, and practitioners. Ideal for classroom use.

Yuhui Shi is a Professor of Electrical and Electronic Engineering at Xi'an Jiaotong-Liverpool University (XJTLU), (Suzhou, China). He has over eighteen years experience in algorithm design and implementation primarily using computational intelligence. He has extensively knowledge on innovation and creative problem-solving skills. Dr. Shi is an associate editor of the IEEE Transactions on Evolutionary Computation. He also serves as a member of the Editorial Review Board of the *Journal of Swarm Intelligence*. Dr. Shi has organized several international conferences since 2003, serving as the general chair or the program chair, etc.. He co-authored a book on swarm intelligence together with Dr. James Kennedy and Professor Russell Eberhart, and another book (Computational Intelligence: Concept to Implementation) together with Prof. Russell Eberhart. He has given tutorials and lectures in conferences and universities.



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