

## Accepted Manuscript

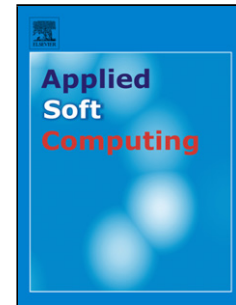
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# Hybridizing sine cosine algorithm with differential evolution for global optimization and object tracking

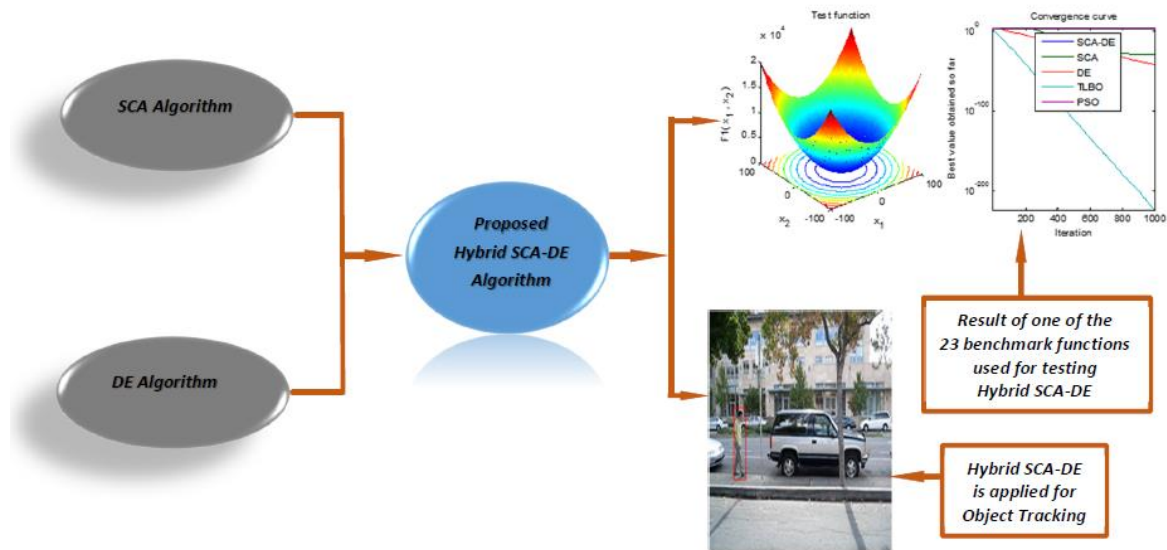
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## Graphical abstract



## Highlights

- A novel Hybrid SCA-DE algorithm is introduced for global optimization and object tracking.
- The proposed hybrid algorithm has better capability to escape from local optima with faster convergence.
- The performance of the Hybrid SCA-DE algorithm was better than with other state-of-the-art metaheuristic algorithms.
- The hybrid SCA-DE algorithm is applied for visual tracking as a real thought-provoking case study to demonstrate and verify the performance of this algorithm in practice.

**Abstract** A new optimization algorithm called Hybrid Sine-Cosine Algorithm with Differential Evolution algorithm (Hybrid SCA-DE) is proposed in this paper for solving optimization problems and object tracking. The proposed hybrid algorithm has better capability to escape from local optima with faster convergence than the standard SCA and DE. The effectiveness of this algorithm is evaluated using 23 benchmark functions, which are divided

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