PSO-CRO hybrid

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Nguyen et al. (2014) propose a hybrid method based on PSO and chemical reaction optimization.

Questions

1. Explain the two methods. For which real-life applications have they been used? Describe at least two. Based on the reported results, explain the advantages and shortcomings of the methods.

2. Explain the proposed hybrid. Why would it be better than the separate methods? Implement and test PSO, CRO and the hybrid on a benchmark function. Based on your implementation and the obtained results, explain the advantages and shortcomings of the methods.

References

Nguyen, T. T., Li, Z., Zhang, S., and Truong, T. K. (2014). A hybrid algorithm based on particle swarm and chemical reaction optimization. *Expert Systems with Applications*, 41(5):2134–2143.