A shuffled complex evolution algorithm for the multidimensional knapsack problem

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Abstract

This work addresses the application of a population based evolutionary algorithm called shuffled complex evolution (SCE) in the multidimensional knapsack problem. The SCE regards a natural evolution happening simultaneously in independent communities. The performance of the SCE algorithm is verified through computational experiments using well-known problems from literature and randomly generated problem as well. The SCE proved to be very effective in finding good solutions demanding a very small amount of processing time.
Multidimensional knapsack problem, Meta-heuristics, Artificial Intelligence

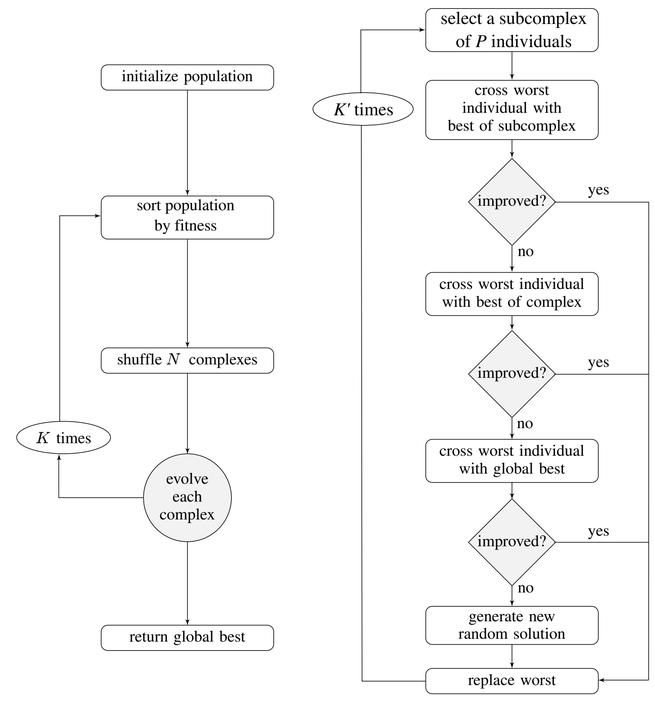
Introduction

Aliquam non lacus dolor, *a aliquam quam* [2]. Cum sociis natoque penatibus et magnis dis parturient montes, nascetur ridiculus mus. Nulla in nibh mauris. Donec vel ligula nisi, a lacinia arcu. Sed mi dui, malesuada vel consectetur et, egestas porta nisi. Sed eleifend pharetra dolor, et dapibus est vulputate eu. **Integer faucibus elementum felis vitae fringilla.** In hac habitasse platea dictumst. Duis tristique rutrum nisl, nec vulputate elit porta ut. Donec sodales sollicitudin turpis sed convallis. Etiam mauris ligula, blandit adipiscing condimentum eu, dapibus pellentesque risus.

Aliquam auctor, metus id ultrices porta, risus enim cursus sapien, quis iaculis sapien tortor sed odio. Mauris ante orci, euismod vitae tincidunt eu, porta ut neque. Aenean sapien est, viverra vel lacinia nec, venenatis eu nulla. Maecenas ut nunc nibh, et tempus libero. Aenean vitae risus ante. Pellentesque condimentum dui. Etiam sagittis purus non tellus tempor volutpat. Donec et dui non massa tristique adipiscing.

Main Objectives

1. Lorem ipsum dolor sit amet, consectetur.
2. Nullam at mi nisl. Vestibulum est purus, ultricies cursus volutpat sit amet, vestibulum eu.
3. Praesent tortor libero, vulputate quis elementum a, iaculis.
4. Phasellus a quam mauris, non varius mauris. Fusce tristique, enim tempor varius porta, elit purus commodo velit, pretium mattis ligula nisl nec ante.
5. Ut adipiscing accumsan sapien, sit amet pretium.
6. Estibulum est purus, ultricies cursus volutpat
7. Nullam at mi nisl. Vestibulum est purus, ultricies cursus volutpat sit amet, vestibulum eu.
8. Praesent tortor libero, vulputate quis elementum a, iaculis.



Conclusions

- Pellentesque eget orci eros. Fusce ultricies, tellus et pellentesque fringilla, ante massa luctus libero, quis tristique purus urna nec nibh. Phasellus fermentum rutrum elementum. Nam quis justo lectus.
- Vestibulum sem ante, hendrerit a gravida ac, blandit quis magna.
- Donec sem metus, facilisis at condimentum eget, vehicula ut massa. Morbi consequat, diam sed convallis tincidunt, arcu nunc.
- Nunc at convallis urna. isus ante. Pellentesque condimentum dui. Etiam sagittis purus non tellus tempor volutpat. Donec et dui non massa tristique adipiscing.

Forthcoming Research

References

[1] A. B. Jones and J. M. Smith. Article Title. *Journal title*, 13(52):123–456, March 2013.
[2] J. M. Smith and A. B. Jones. *Book Title*. Publisher, 7th edition, 2012.

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