CITS4404 Team Project - Building AI Trading Bots

Group 6 - Literature Review

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1 Introduction

2 Algorithms

2.1 Gravity Search Algorithm

2.1.1 Temp: dot points

- What problem with existing algorithms is the new algorithm attempting to solve?
  - GSA uses gravity and momentum to increase the likelihood of escaping local minimums.
  - gbest [1]: helps prevent stagnation due to gravity.
  - Enhanced GSA [2]: helps exploration and avoiding being trapped in local minima.
- Why, or in what respect, have previous attempts failed?
- What is the new idea presented in this paper?
  - gbest: an additional force that pushes towards the last known global best value
  - EGSA: a mutation operation performed during optimisation iterations that replaces the worst candidates with new randomly selected/generated candidates.
- How is the new approach demonstrated?
- What are the results or outcomes and how are they validated?
- What is your assessment of the conclusions?

3 Conclusions

4 References

[1] S. Mirjalili and A. Lewis, "Adaptive gbest-guided gravitational search algorithm," *Neural computing & applications*, vol. 25, no. 7-8, pp. 1569–1584, 2014.

[2] M. S. Jahan and N. Amjady, "Solution of large-scale security constrained optimal power flow by a new bi-level optimisation approach based on enhanced gravitational search algorithm," *IET generation, transmission & distribution*, vol. 7, no. 12, pp. 1481–1491, 2013.