

SIGEVO Summer School 2017 Challenge

Challenge posed by Dr Carola Doerr

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What are the 3 main advantages of non-static parameter choices?

Some advantages of setting parameters dynamically are -

- As evolution proceeds, it allows to utilize the information accumulated regarding the fitness landscape to improve future performance
- As evolution progresses from a more diffused global search process to a more converging local search process, dynamic parameters help in accurate convergence
- It effectively helps in solving optimization problems where the fitness landscape itself is adaptive [1][2][3]

[1] J. Branke. Evolutionary Optimization in Dynamic Environments. Kluwer, Boston, 2002.

[2] T. Back. On the behavior of evolutionary algorithms in dynamic fitness landscapes. In IEEE International Conference on Evolutionary Computation, pages 446451. IEEE Press, 1998.

[3] R. Morrison. Designing Evolutionary Algorithms for Dynamic Environments. Springer-Verlag, Berlin, 2004.