

**Lozano, J. A.; Sagarna, R.; Larrañaga, P.**

**Parallel estimation of distribution algorithms.** (English) [Zbl 1002.90104](#)

Larrañaga, Pedro (ed.) et al., Estimation of distribution algorithms. A new tool for evolutionary computation. Boston: Kluwer Academic Publishers. Genet. Algorithms Evol. Comput. 2, 129-145 (2002).

Summary: This chapter describes parallel versions of some Estimation of Distribution Algorithms (EDAs). We concentrate on those algorithms that use Bayesian networks to model the probability distribution of the selected individuals, and particularly on those that use a score + search learning strategy. Apart from the evaluation of the fitness function, the biggest computational cost in these EDAs is due to the structure learning step. We aim to speed up the structure learning step by the use of parallelism. Two different approaches will be given and evaluated experimentally in a shared memory MIMD computer.

For the entire collection see [\[Zbl 0979.00024\]](#).

**MSC:**

[90C59](#) Approximation methods and heuristics in mathematical programming

[68T05](#) Learning and adaptive systems in artificial intelligence

[90B15](#) Stochastic network models in operations research

Cited in **9** Documents

**Keywords:**

[parallelism](#); [structure learning](#); [estimation of distribution algorithms](#); [Bayesian networks](#); [probability distribution](#)