Bat Algorithm on GPU

Jean Carlo Machado[1]

[1] Universidade Estadual de Santa Catarina (UDESC) Joinville, SC.

Abstract.

Resumo.

1. General Information

The bat algorithm was introduced...

In this work the bath algorithm used was the one proposed by (parpinelli reference).

It was developed two versions of the algorithm. One that runs on CPU and the other which uses CPU.

The benchmark functions used were the following:

ROSENBROOK, SPHERE, SCHWEFEL, ACKLEY, RASTRINGIN, GRIEWANK, SHUBER

For the GPU version the approach used was the split of each individual in one thread. It was observed speedups with big populations.

2. Experiment

Experiment 1

Function: Griewank Numero de indivÃduos: 256 Numero de iteracoes: 10000

Experiment 2

Function: Griewank Numero de indivÃduos: 768 Numero de iteracoes: 10000

3. Results

3.1. Device details

The experiments were executed on a machine with the following configuration:

Intel(R) Core(TM) i5-4460 CPU @ 3.20GHz

GK208 GeForce GT 720

3.2. E1

1m4.888s 0m55.439s Speedup: 1.16x

3.3. E2

2m27.902s 0m21.976s Speedup: 7x

4. References

Bibliographic references must be unambiguous and uniform. We recommend giving the author names references in brackets, e.g. [**?**], [**?**], and [**?**].