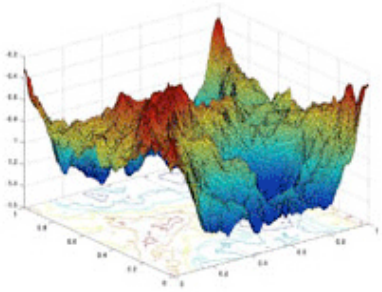
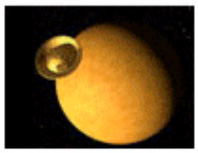


Huygens

Search & Optimisation

Benchmarking Suite



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CEC2006 Huygens Probe Competition

Results!

Congratulations to...

Winner: Wolfgang Fink, Division of Physics, California Institute of Technology, USA

Runner up: Evan Hughes, DAPS, Cranfield University, UK

Full Table of Results (includes results and rankings for each individual moon)

Overhead Slides for CEC2006 Presentation Ceremony

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15 July 2006

The competition is now closed. Results will be posted after the winners are announced at the WCCI2006 Banquet on Wednesday 19th July.

28 June 2006

The competition is now open.

Important Dates

- June 28: Competition Opened
- July 13: Competition Closes
- July 18-22: WCCI 2006. Winner announced at WCCI banquet.

Introduction

This competition is part of the CEC 2006 Competition Programme, which in turn is part of the 2006 IEEE World Congress on Computational Intelligence.

In this competition you are be given access to a sequence 20 "moons" - fractal landscapes (generated by sequences of meteor impacts) that are wrapped in both x and y dimensions. Example landscapes can be viewed in the Image Gallery. For each moon you will be allowed 1000 probes (evalutations) to find the lowest point on the surface that you can. You may use any technique at your disposal.

The scientific aim is to allow comparison of the many evolutionary (and other more traditional) approaches to real-valued (non-differentiable) optimisation, given a fixed resource in the number of evaluations, and to better understand the cost/benefit trade-offs of population based methods.

How does it Work?

The competition consists of an (optional) training phase, from December 2005 through to June 2006, followed by the competition itself which takes place in June/July 2006.

During the training phase, prospective contestants are given access to facilities for testing, training and/or fine tuning their algorithm(s). This includes:

- Unlimited access to a large set of training moons (more than 2 billion distinct landscapes). These moons are generated in an identical manner to the series that will be used in the competition.
- Acccess to specified sequences of benchmarking moons from the same sequence as those used for the competition. Attempts at these moons will be scored and the results displayed in the on-line league tables. This enables you to benchmark your algorithm against others that have been submitted.

Code and instructions for accessing the training and benchmarking landscapes can be found on the Downloads page.

For the competition, access will be given to a new set of 20 unseen moons from the same series used for benchmarking. Each individual or group will be allowed to enter up to three algorithms. It is therefore recommended that you test your algorithms using the benchmarking sequences available prior to entering them in the competition.

Unlike benchmarking where an absolute score is generated, the competition will use a ranking system where the entries are compared directly against each other for performance on each moon. All entries will be ranked for their performance on each of the 20 moons, and the algorithm with the highest overall average ranking will be the winner.

Instructions

An algorithm is entered in the competition in exactly the same way that it is submitted for benchmarking, using the sequence name CEC2006 and 20 landscapes.

For example, if you are pasting code from `RandomSearchExample` in your own algorithm, you would change:

```
static final String BENCHMARK_SEQUENCE = "20-1-1000";
```

to:

```
static final String BENCHMARK_SEQUENCE = "CEC2006";
```

and change:

```
static final int NUM_LANDSCAPES = 10;
```

to:

```
static final int NUM_LANDSCAPES = 20;
```

When you run the algorithm with these parameters it will be recorded as a CEC2006 Competition Entry. (As you are allowed 3 entries it is recommended that you test the algorithm on one of the benchmarking sequences first.)

If your benchmarking submission is successful, your name and algorithm should be listed in the benchmarking results under the Benchmarking page.

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