Evolutionary Computing Practical Assignment 2013
Numeric Optimization Competition

General

The practical assignment for the Evolutionary Computing course 2013-2014 is structured as a competition on black box numeric optimization.

Rules

Participating players will be teams of up to three students.

You are required to design and implement an *evolutionary algorithm for continuous optimization*. You are free to use any representation and operators you wish. You are allowed to use existing ideas found in the book or other literature but using an existing algorithm as is is strictly forbidden.

There is no limit to the number of versions/algorithms you can submit. However, scores and rankings on the website will only be updated automatically over some interval (probably 3 hours).

Algorithms will be tested with three functions scaled between 0 and 10. An algorithm's score will be the average of the three function scores.

The competition will end at 11:59am on Thursday November 1st at which point the submission system will close and your score will be determined based on your **last** submission.

After the end of the competition you will be required to submit within three days the source code and a short report (3-4 pages) describing your algorithm. If there is doubt about the originality of your algorithm you may be called for a meeting to explain your algorithm's design and rationale in person.

Your assignment grade will be calculated as `assignment grade = 0.9*competition score + 0.1*report`.

The members of the teams that rank 1st for a test function will receive a bonus point for their final course grade.

Algorithm Evaluations

Your evolutionary algorithm will be optimizing three numeric functions. Of course you do not know the functions but each of them will provide the following information:

- Whether it's unimodal or multimodal
- Whether it exhibits global regularity or not
- Whether it is separable or not
- The number of evaluations your algorithm can use for optimizing it

Technical Details

The competition will run on a server that will provide a web interface for submissions and announcing scores and rankings. A link to the web interface will be provided on Blackboard.

You need to implement your EA in Java. Your class has to implement a specific interface. Detailed instructions and resources will be available on the competition website.

Contact

For questions mail to g.karafotias@vu.nl or just drop by office T304.