

Game-Benchmark for Evolutionary Algorithms

Vanessa Volz*, Boris Naujoks+, Tea Tušar', Pascal Kerschke#

* TU Dortmund University, Germany

+ TH Köln - University of Applied Sciences, Germany

' Jožef Stefan Institute, Slovenia

WWU Münster University, Germany

15th July 2018

Game Benchmark: But Why?

- On the one hand:
Multiple game-related competitions at GECCO and CIG for algorithms, no systematic analysis and comparison.
- On the other hand:
Benchmarking analysis tools based on artificial testfunctions. Now:
Game-Benchmark!

OK... and HOW?

■ Part 1: Problems

- 1 Collect game-related problems
- 2 Integrate them with COCO
- 3 Analyse results
- 4 Make the benchmark available publicly

■ Part 2: Discussions

- 1 Organise a workshop
- 2 Discuss the benchmark with **YOU**

Cool! WHAT can I do?

- Request problem characteristics

https://ls11-www.cs.tu-dortmund.de/people/volz/gamesbench_part.html#char

- Contribute your game-related problem

Open an issue <https://github.com/ttusar/coco>

- Run your algorithm on the benchmark

Get the code <https://github.com/ttusar/coco>

- Join in our discussion

Table of Contents

1 Welcome and Schedule

2 Background

- COCO framework
- Exploratory Landscape Analysis

3 Benchmark

- TopTrumps
- MarioGAN

4 Discussion