

# Search Based Software Engineering

## Exercise 02 - Genetic Algorithms

2018-05-08

**Deadline:** 2018-05-21 23:59

**Submit to:** andre.karge@uni-weimar.de

**Submission details:** compress your files (.zip or .tar.gz or .rar)

**Name your compressed file:** <lastname>\_<firstname>\_<matrikelnummer>-ex<exercise-number>(.tar.gz or .rar or .zip)

or for more than one student: please use this format for all group members

example: norris\_chuck\_123456-schwarzenegger\_arnold\_121212-ex01.tar.gz

**Groups:** submit your solved assignment in **groups of 2**

**Language:** Python 3

**Hint:** Use the bdbc and h264 datasets for your algorithms (*feature + interaction*)

The algorithm should find the maximum performance value

I will make the following assessment: `python3 run_genetic_alg.py model_feature.txt model_interactions.txt`

The slides of the lab class and the datasets can be found at: [link](#)

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### Problem Description

Model configurations

#### Exercise 1. (21 points)

Implement a genetic algorithm of your choice to find an optimal configuration for the given datasets. It has to consist of the following components:

- a) initialization procedure (5 points)
- b) copy procedure (1 point)
- c) tweak / mutation procedure (5 points)
- d) selection procedure (5 points)
- e) crossover / breeding procedure (5 points)