

Review report of a final thesis

Czech Technical University in Prague

Faculty of Information Technology

Student: Bc. Ján Juranko
Reviewer: Mgr. Jakub Gemrot
Thesis title: Impementation of simultaneous application of several surrogate models to evolutionary optimization
Branch of the study: Web and Software Engineering

Date: 5. 6. 2017

<i>Evaluation criterion:</i>	<i>The evaluation scale: 1 to 5.</i>
1. Difficulty and other comments on the assignment	1 = extremely challenging assignment, 2 = rather difficult assignment, 3 = assignment of average difficulty, 4 = easier, but still sufficient assignment, 5 = insufficient assignment
<i>Criteria description:</i> Characterize this final thesis in detail and its relationships to previous or current projects. Comment what is difficult about this thesis (in case of a more difficult thesis, you may overlook some shortcomings that you would not in case of an easy assignment, and on the contrary, with an easy assignment those shortcomings should be evaluated more strictly.)	
<i>Comments:</i> The student must have study moderately complex topic of surrogate modelling for black-box optimization and Gaussian processes.	
<i>Evaluation criterion:</i>	<i>The evaluation scale: 1 to 4.</i>
2. Fulfilment of the assignment	1 = assignment fulfilled, 2 = assignment fulfilled with minor objections, 3 = assignment fulfilled with major objections, 4 = assignment not fulfilled
<i>Criteria description:</i> Assess whether the thesis meets the assignment statement. In Comments indicate parts of the assignment that have not been fulfilled, completely or partially, or extensions of the thesis beyond the original assignment. If the assignment was not completely fulfilled, try to assess the importance, impact, and possibly also the reason of the insufficiencies.	
<i>Comments:</i> No comments.	
<i>Evaluation criterion:</i>	<i>The evaluation scale: 1 to 4.</i>
3. Size of the main written part	1 = meets the criteria, 2 = meets the criteria with minor objections, 3 = meets the criteria with major objections, 4 = does not meet the criteria
<i>Criteria description:</i> Evaluate the adequacy of the extent of the final thesis, considering its content and the size of the written part, i.e. that all parts of the thesis are rich on information and the text does not contain unnecessary parts.	
<i>Comments:</i> No comments.	
<i>Evaluation criterion:</i>	<i>The evaluation scale: 0 to 100 points (grade A to F).</i>
4. Factual and logical level of the thesis	90 (A)
<i>Criteria description:</i> Assess whether the thesis is correct as to the facts or if there are factual errors and inaccuracies. Evaluate further the logical structure of the thesis, links among the chapters, and the comprehensibility of the text for a reader.	
<i>Comments:</i> The description is informative, even though minimalist in certain cases. Formulas are in order, however the text is not describing ideas behind them. It is hard to tell whether the student understands them well.	
<i>Evaluation criterion:</i>	<i>The evaluation scale: 0 to 100 points (grade A to F).</i>
5. Formal level of the thesis	90 (A)
<i>Criteria description:</i> Assess the correctness of formalisms used in the thesis, the typographical and linguistic aspects, see Dean's Directive No. 14/2015, Article 3.	
<i>Comments:</i> There are a lot of graphs describing how well the optimization methods tested are working on different benchmark functions, however, graphs are a bit small, there are sometimes a lot of functions plotted in the same graph and therefore it is hard to orient within them; I would suggest to either complement the graphs with more text (i.e. stating which optimization method was the best) or break them into multiple graphs.	
<i>Evaluation criterion:</i>	<i>The evaluation scale: 0 to 100 points (grade A to F).</i>
6. Bibliography	95 (A)
<i>Criteria description:</i> Evaluate the student's activity in acquisition and use of studying materials in his thesis. Characterize the choice of the sources. Discuss whether the student used all relevant sources, or whether he tried to solve problems that were already solved. Verify that all elements taken from other sources are properly differentiated from his own results and contributions. Comment if there was a possible violation of the citation ethics and if the bibliographical references are complete and in compliance with citation standards.	

Comments:
Minor text formatting bugs.

Evaluation criterion: *The evaluation scale: 0 to 100 points (grade A to F).*

7. Evaluation of results, publication outputs and awards

95 (A)

Criteria description:

Comment on the achieved level of major results of the thesis and indicate whether the main results of the thesis extend published state-of-the-art results and/or bring completely new findings. Assess the quality and functionality of hardware or software solutions. Alternatively, evaluate whether the software or source code that was not created by the student himself was used in accordance with the license terms and copyright. Comment on possible publication output or awards related to the thesis.

Comments:

Results are described and discussed well. However, it is challenging to orient within reported graphs as stated above.

Evaluation criterion:

No evaluation scale.

8. Applicability of the results

Criteria description:

Indicate the potential of using the results of the thesis in practice.

Comments:

The result has a publication potential as the student gathered a lot of information about multiple optimization methods behaviors on a large benchmark function set.

Evaluation criterion:

No evaluation scale.

9. Questions for the defence

Criteria description:

Formulate any question(s) that the student should answer to the committee during the defence (use a bullet list).

Questions:

No questions.

Evaluation criterion:

The evaluation scale: 0 to 100 points (grade A to F).

10. The overall evaluation

95 (A)

Criteria description:

Summarize the parts of the thesis that had major impact on your evaluation. The overall evaluation **does not** have to be the arithmetic mean or any other formula with the values from the previous evaluation criteria 1 to 9.

Comments:

The thesis is very solid, even though it might be hard to read for someone that is not working with optimization methods based on ES and GP on daily basis. A lot of data has been gathered. If the student want to publish them, I would recommend to review the way those data are presented.

Signature of the reviewer: