

Supervisor's statement of a final thesis

Czech Technical University in Prague

Faculty of Information Technology

Student: Bc. Martin Chovanec
Supervisor: Dipl.-Inf. Klaus Greff
Thesis title: Extension of a ML experiment management tool
Branch of the study: Web and Software Engineering

Date: 4. 6. 2017

<p><i>Evaluation criterion:</i></p> <p>1. Difficulty and other comments on the assignment</p> <p><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.)</p> <p><i>Comments:</i> The assignment was to implement and integrate a graphical user interface that allows machine learning researchers that use the Sacred library to browse their results. It was difficult because it encompassed the entire process of software development: * The requirements were not clearly specified and needed to be collected via user study and personal interaction with users. * An understanding for the domain of machine learning experimentation needed to be developed. * It involved implementing a backend in Python, a frontend in Javascript, as well as integrating with 3rd party libraries. * Several very different aspects played key roles, including networking, database communication, and graphical user interface design. * The software had to be properly tested, documented and released as an easily installable package</p>	<p><i>The evaluation scale: 1 to 5.</i></p> <p>1 = extremely challenging assignment, 2 = rather difficult assignment, 3 = assignment of average difficulty, 4 = easier, but still sufficient assignment, 5 = insufficient assignment</p>
<p><i>Evaluation criterion:</i></p> <p>2. Fulfilment of the assignment</p> <p><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.</p> <p><i>Comments:</i> The implemented Sacredboard fulfills the assignment to the satisfaction of many users. There are still non-essential features pending, but they comprise further improvements, rather than a list of failed requirements.</p>	<p><i>The evaluation scale: 1 to 4.</i></p> <p>1 = assignment fulfilled, 2 = assignment fulfilled with minor objections, 3 = assignment fulfilled with major objections, 4 = assignment not fulfilled</p>
<p><i>Evaluation criterion:</i></p> <p>3. Size of the main written part</p> <p><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.</p> <p><i>Comments:</i> The final thesis contains all relevant information about the analysis, design, design-process, implementation and testing of the project. It also gives a brief intro into the domain of Machine Learning and provides a small example project.</p>	<p><i>The evaluation scale: 1 to 4.</i></p> <p>1 = meets the criteria, 2 = meets the criteria with minor objections, 3 = meets the criteria with major objections, 4 = does not meet the criteria</p>
<p><i>Evaluation criterion:</i></p> <p>4. Factual and logical level of the thesis</p> <p><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.</p> <p><i>Comments:</i> Minor inaccuracies in the Machine Learning background section</p>	<p><i>The evaluation scale: 0 to 100 points (grade A to F).</i></p> <p>93 (A)</p>
<p><i>Evaluation criterion:</i></p> <p>5. Formal level of the thesis</p>	<p><i>The evaluation scale: 0 to 100 points (grade A to F).</i></p> <p>75 (C)</p>

Criteria description:

Assess the correctness of formalisms used in the thesis, the typographical and linguistic aspects, see Dean's Directive No. 14/2015, Article 3.

Comments:

The writing was clear and understandable, but rather often contained minor grammatical errors, typos or informal language.

Evaluation criterion:

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

6. Bibliography

88 (B)

Criteria description:

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:

Martin studied all required topics, and cited many related sources clearly distinguishing his work from prior work.

The only objection is that choice of references was sometimes questionable, such as citing a web-resource or lecture notes when a scientific source would have been available.

Evaluation criterion:

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

7. Evaluation of results, publication outputs and awards

90 (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:

The developed software is of high quality and meets all of the requirements. Even a few non-required features were implemented.

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 developed software will be used extensively by many machine learning researchers, and help them to maintain an overview over their results.

Evaluation criterion:

The evaluation scale: 1 to 5.

9. Activity and self-reliance of the student

9a:

1 = excellent activity,

2 = very good activity,

3 = average activity,

4 = weaker, but still sufficient activity,

5 = insufficient activity

9b:

1 = excellent self-reliance,

2 = very good self-reliance,

3 = average self-reliance,

4 = weaker, but still sufficient self-reliance,

5 = insufficient self-reliance.

Criteria description:

Review student's activity while working on this final thesis, student's punctuality when meeting the deadlines and consulting continuously and also, student's preparedness for these consultations. Furthermore, review student's independency.

Comments:

Martin was proactive about understanding and solving the problem. He managed his time well and worked diligently. He was always punctual and replied almost instantaneously to any request.

Evaluation criterion:

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

10. The overall evaluation

92 (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 implemented tool Sacredboard is the most important output of this thesis. Its high quality and usefulness are my main criteria for evaluation. While the written text of the thesis has some shortcomings, the code adheres to a very high standard. I also value the process of working with Martin, which was always a professional and pleasant experience.

Signature of the supervisor: