



Review report of a final thesis

Student: Matyáš Skalický
Reviewer: MSc. Juan Pablo Maldonado Lopez, Ph.D.
Thesis title: Classification of URLs Using Deep Neural Networks
Branch of the study: Knowledge Engineering

Date: 29. 5. 2019

<i>Evaluation criterion:</i>	<i>The evaluation scale: 1 to 4.</i>
1. 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 submitted FT defines the objectives sufficiently and in line with the assignment; whether the objectives are formulated correctly and fulfilled sufficiently. In the comment, specify the points of the assignment that have not been met, assess the severity, impact, and, if appropriate, also the cause of the deficiencies. If the assignment differs substantially from the standards for the FT or if the student has developed the FT beyond the assignment, describe the way it got reflected on the quality of the assignment's fulfilment and the way it affected your final evaluation.	
<i>Comments:</i> Assignment completed	
<i>Evaluation criterion:</i>	<i>The evaluation scale: 0 to 100 points (grade A to F).</i>
2. Main written part	95 (A)
<i>Criteria description:</i> Evaluate whether the extent of the FT is adequate to its content and scope: are all the parts of the FT contentful and necessary? Next, consider whether the submitted FT is actually correct – are there factual errors or inaccuracies? Evaluate the logical structure of the FT, the thematic flow between chapters and whether the text is comprehensible to the reader. Assess whether the formal notations in the FT are used correctly. Assess the typographic and language aspects of the FT, follow the Dean's Directive No. 26/2017, Art. 3. Evaluate whether the relevant sources are properly used, quoted and cited. Verify that all quotes are properly distinguished from the results achieved in the FT, thus, that the citation ethics has not been violated and that the citations are complete and in accordance with citation practices and standards. Finally, evaluate whether the software and other copyrighted works have been used in accordance with their license terms.	
<i>Comments:</i> Nicely written, extra points for calling deep learning "overused buzzword".	
<i>Evaluation criterion:</i>	<i>The evaluation scale: 0 to 100 points (grade A to F).</i>
3. Non-written part, attachments	100 (A)
<i>Criteria description:</i> Depending on the nature of the FT, comment on the non-written part of the thesis. For example: SW work – the overall quality of the program. Is the technology used (from the development to deployment) suitable and adequate? HW – functional sample. Evaluate the technology and tools used. Research and experimental work – repeatability of the experiment.	
<i>Comments:</i> Clearly written code	
<i>Evaluation criterion:</i>	<i>The evaluation scale: 0 to 100 points (grade A to F).</i>
4. Evaluation of results, publication outputs and awards	80 (B)
<i>Criteria description:</i> Depending on the nature of the thesis, estimate whether the thesis results could be deployed in practice; alternatively, evaluate whether the results of the FT extend the already published/known results or whether they bring in completely new findings.	
<i>Comments:</i> Not clear how applicable. Single-number results are useless even in academic publications.	
<i>Evaluation criterion:</i>	<i>No evaluation scale.</i>
5. Questions for the defence	
<i>Criteria description:</i> Formulate questions that the student should answer during the Presentation and defence of the FT in front of the SFE Committee (use a bullet list).	

Questions:

- My experience is that naive Bayes will be more competitive once we take into account the computational cost, can you prove I am wrong?
- How are these URLs tagged in the first place?
- Some categories seem more relevant than others. How could you encourage the model to learn those better?

Evaluation criterion:

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

6. The overall evaluation

80 (B)

Criteria description:

Summarize which of the aspects of the FT affected your grading process the most. The overall grade does not need to be an arithmetic mean (or other value) calculated from the evaluation in the previous criteria. Generally, a well-fulfilled assignment is assessed by grade A.

Comments:

The work is overall nice and interesting, but there are two important points I am missing.

There are six categories, one of them called "other" (very broad). I am missing:

- confusion matrix somewhere: probably there is no interest in having 100% precision in "other".
- training cost vs F1 scores, or other ways to compare if it is worth bothering with the GPUs.

Signature of the reviewer: