



Review report of a final thesis

Student: Aleksandr Karpenko
Reviewer: Ing. Jan Jusko
Thesis title: Design of anomaly detection for stock market trading
Branch of the study: Computer Science

Date: 12. 6. 2018

<i>Evaluation criterion:</i>	<i>The evaluation scale: 1 to 4.</i>
1. Fulfilment of the assignment	1 = <u>assignment fulfilled</u>, 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 fulfilled.	
<i>Evaluation criterion:</i>	<i>The evaluation scale: 0 to 100 points (grade A to F).</i>
2. Main written part	65 (D)
<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> I found the thesis hard to read, mainly due to its incoherent nature. For starters, I would appreciate more space dedicated to the motivation of the work. In its current state, there is little to no explanation why the anomaly detection is used and what is the specific advantage of using it. Next, while the chapter describing theoretical background provided a nice overview, there were factual errors, for example in Section 2.4.4.. I believe the biggest problem of the thesis is a missing chapter that would summarize its contribution and a reasoning behind it. In its current form, the thesis jumps from theoretical background to evaluation without any additional description. Finally, section with evaluation leaves the reader confused with heaps of information without any easy-to-follow structure. Additionally, some of the results are trivial, such as that moving average anomaly detection will not work correctly at the start and end of a trading day. Evaluation is followed by the analysis of the features used in the anomaly detection. Since these features were referenced in the evaluation itself, I believe this analysis should precede the evaluation.	
<i>Evaluation criterion:</i>	<i>The evaluation scale: 0 to 100 points (grade A to F).</i>
3. Non-written part, attachments	79 (C)
<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> I did not evaluate quality of the source 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	65 (D)
<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.	

Comments:

I have reservations about the possibility of the real-world application of the results, and there is not many references to the state of the art. However, I believe it is rare for bachelor thesis to outperform any state of the art.

Evaluation criterion:

No evaluation scale.

5. Questions for the defence

Criteria description:

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:

- 1) Why do you think features containing information about cost and quantity are found to be non-suitable.
- 2) I missed any details about the labeled anomalies. What kind of anomalies are we talking about?

Evaluation criterion:

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

6. The overall evaluation

65 (D)

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 thesis had a poor form with some factual errors and some conclusions drawn from the experiments were trivial. However, one can see there was some work put to the thesis. Grade: D.

Signature of the reviewer: