



# Supervisor's statement of a final thesis

**Student:** Aleksandr Karpenko  
**Supervisor:** Ing. Martin Kopp  
**Thesis title:** Design of anomaly detection for stock market trading  
**Branch of the study:** Computer Science

**Date:** 27. 5. 2018

<i>Evaluation criterion:</i>	<i>The evaluation scale: 1 to 4.</i>
<b>1. Fulfilment of the assignment</b>	<b><u>1 = assignment fulfilled,</u> 2 = assignment fulfilled with minor objections, 3 = assignment fulfilled with major objections, 4 = assignment not fulfilled</b>
<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 was fulfilled.	
<i>Evaluation criterion:</i>	<i>The evaluation scale: 0 to 100 points (grade A to F).</i>
<b>2. Main written part</b>	<b>50 (E)</b>
<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> The text of the thesis contain a lot of grammatical errors, typos and illogical statements. The text is many times puzzling and hard to follow, mainly due to a bad english. Citations are sparse and I would prefer a broader state of the art section, as anomaly detection for the time sequences is well documented topic.  Typical practice in the thesis is that generic images are huge while the important are small or lack any additional description (e.g. pages 29 - 30). Some terms like "feature not suitable" are used many times before they are explained.	
<i>Evaluation criterion:</i>	<i>The evaluation scale: 0 to 100 points (grade A to F).</i>
<b>3. Non-written part, attachments</b>	<b>80 (B)</b>
<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> From the code made, the best part is the data exporter tool which can be used for further researcher.	
<i>Evaluation criterion:</i>	<i>The evaluation scale: 0 to 100 points (grade A to F).</i>
<b>4. Evaluation of results, publication outputs and awards</b>	<b>60 (D)</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> Presented results are not directly applicable, but it may be a good start. Presented models are simple with few good ideas.	
<i>Evaluation criterion:</i>	<i>The evaluation scale: 1 to 5.</i>

**5. Activity and self-reliance of the student**

- 5a:  
1 = excellent activity,  
2 = very good activity,  
**3 = average activity,**  
4 = weaker, but still sufficient activity,  
5 = insufficient activity
- 5b:  
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:*

From your experience with the course of the work on the thesis and its outcome, review the student's activity while working on the thesis, his/her punctuality when meeting the deadlines and whether he/she consulted you as he/she went along and also, whether he/she was well prepared for these consultations (5a). Assess the student's ability to develop independent creative work (5b).

*Comments:*

The cooperation was a bit cumbersome from the beginning. Student advertised interesting data but it took him almost 2 months to acquire them and another month to create some usable sample. After that student rushed to compensate this delay. Unfortunately that led to a lot of mistakes.

Student really improved in working on his own.

*Evaluation criterion:*

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

**6. The overall evaluation**

70 (C)

*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 presents solution to the almost real time anomaly detection in stock trading data. Student conducted extensive experiments, yet the presented results are not good enough to be directly applicable. Presented models are simple with few good ideas, like splitting the day into logical parts. The overall presentation of the thesis is average while some sections being puzzling.

Final grade C - dobre

Signature of the supervisor: