



Supervisor's statement of a final thesis

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Thesis title: Detection of defects in X-Ray images using Neural Networks
Branch / specialization: Knowledge Engineering
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Evaluation criteria

1. Fulfillment of the assignment

- ▶ [1] assignment fulfilled
- [2] assignment fulfilled with minor objections
- [3] assignment fulfilled with major objections
- [4] assignment not fulfilled

Assignment has been fulfilled, it is an average ML assignment, all parts of a ML thesis have been covered, including theory, implementation, experiments and results discussion.

2. Main written part 80 /100 (B)

The thesis contains everything that is expected for a given assignment, structure is clear, all topics are explained and all the main implementation opportunities have been tried and experimented with. There is not much extra on top of that — more models could be tried and compared, including ensembles, and other (similar X-Ray) datasets could be brought for comparison. That being said, I consider this work to be above average.

3. Non-written part, attachments 87 /100 (B)

Attached notebooks are in a readable and reproducible format. Libraries are used in an industry-standard way.

4. Evaluation of results, publication outputs and awards 77 /100 (C)

As mentioned before, although the student covered all necessary points, he did not go above and beyond to come up with more accurate solution or try the latest state-of-the-art models and approaches. Nevertheless, the results are quite good and similar models (and process) could be used in practice.

5. Activity of the student

- [1] excellent activity
- ▶ [2] **very good activity**
- [3] average activity
- [4] weaker, but still sufficient activity
- [5] insufficient activity

The student was active, especially towards the end of the project the activity (and communication) has grown, which is again above average.

6. Self-reliance of the student

- [1] excellent self-reliance
- ▶ [2] **very good self-reliance**
- [3] average self-reliance
- [4] weaker, but still sufficient self-reliance
- [5] insufficient self-reliance

The student was independent and came up with most of the solutions by himself.

The overall evaluation

82 /100 (B)

Considering all points above, I propose the thesis to be graded with B.

Instructions

Fulfillment of the assignment

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.

Main written part

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. 52/2021, 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.

Non-written part, attachments

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.

Evaluation of results, publication outputs and awards

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.

Activity of the student

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.

Self-reliance of the student

From your experience with the course of the work on the thesis and its outcome, assess the student's ability to develop independent creative work.

The overall evaluation

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.