

I. IDENTIFICATION DATA

Thesis title:	Active Learning for Semantic Segmentation of Point Clouds
Author's name:	Aleš Kučera
Typ of thesis:	bachelor
Faculty/Institute:	Faculty of Electrical Engineering (FEE)
Department:	Department of Cybernetics
Thesis reviewer:	Ing. Michal Neoral
Reviewer's department:	Department of Cybernetics

II. EVALUATION OF INDIVIDUAL CRITERIA

Assignment

CHALLENGING

How demanding was the assigned project?

The assignment presented for review is notably **challenging** for a bachelor thesis, and its level of complexity would be suitable even for a master's thesis. The chosen topic, focusing on the optimal selection of point cloud data samples, addresses an important problem within the field.

Fulfilment of assignment

FULFILLED WITH MINOR OBJECTIONS

How well does the thesis fulfil the assigned task? Have the primary goals been achieved? Which assigned tasks have been incompletely covered, and which parts of the thesis are overextended? Justify your answer.

The thesis satisfactorily fulfils the assigned task overall. Most of the primary goals have been achieved, with adequate coverage of the assigned tasks. However, **one specific goal**, namely "Use of localization data to provide consistent predictions for objects observed from different positions", **has not been fulfilled**. It is difficult to determine the significance of this unfulfilled task in relation to the overall goals of the thesis without further context. Nevertheless, all other assigned tasks have been adequately addressed, indicating a solid level of completion and adherence to the assignment requirements.

Methodology

CORRECT

Comment on the correctness of the approach and/or the solution methods.

The approach and solution methods employed in the thesis are **correct and appropriate**. The student effectively utilized the methodology outlined in the assignment, including the suggested matrices and the evaluation of models. The description of the matrices and evaluation process is accurate and well-documented.

Technical level

A - EXCELLENT

Is the thesis technically sound? How well did the student employ expertise in the field of his/her field of study? Does the student explain clearly what he/she has done?

The thesis is technically sound, with **no notable issues**. The student demonstrates a commendable level of expertise in their field of study, effectively applying their knowledge and skills to address the research problem. The explanations provided by the student are clear, allowing for a thorough understanding of the work conducted.

Formal and language level, scope of thesis

C - GOOD

Are formalisms and notations used properly? Is the thesis organized in a logical way? Is the thesis sufficiently extensive? Is the thesis well-presented? Is the language clear and understandable? Is the English satisfactory?

The thesis showcases language that is both **clear and easily understandable**, with a **high level of English** proficiency.

However, there are some concerns regarding the organization of the thesis. While the language used is generally clear, there are instances where the splitting of text and figure descriptions appears chaotic. For example, in Section 6.1, part of the figure description is provided, but the usage of such description is not referenced in Figure 6.3. Additionally, more than **half of the figures and tables are not referenced in the text**. Although the reader can infer their relevance from their placement, the lack of explicit references adds unnecessary effort and confusion.

The thesis is divided into seven chapters, but this division does not contribute effectively to the overall readability. The "Related work" chapter is short, and fragments of text that would be more appropriately placed within this section are dispersed throughout other chapters, undermining the clarity and logical organization of the thesis.

Therefore, while the language proficiency is satisfactory, there is a need for improvement in terms of properly referencing figures and tables, ensuring coherent placement of figure descriptions, and reorganizing the content to enhance overall readability and logical flow.

Selection of sources, citation correctness

B - VERY GOOD

Does the thesis make adequate reference to earlier work on the topic? Was the selection of sources adequate? Is the student's original work clearly distinguished from earlier work in the field? Do the bibliographic citations meet the standards?

The thesis lacks adequate reference to earlier work on the topic (short *Related works*), leaving out the wider context and failing to distinguish the student's original work from existing research in the field. While the selection of sources is generally sufficient, especially for references that mention reputable journals or conferences, there is a need for improved referencing to provide a more comprehensive understanding of the research landscape. The bibliographic citations generally meet the required standards. However, **some citations only include authors' names and titles**, making it difficult to assess the quality of the source without further investigation. Enhancing the referencing to include more detailed bibliographic information would improve the overall quality and credibility of the thesis.



THESIS REVIEWER'S REPORT

III. OVERALL EVALUATION, QUESTIONS FOR THE PRESENTATION AND DEFENSE OF THE THESIS, SUGGESTED GRADE

Summarize your opinion on the thesis and explain your final grading. Pose questions that should be answered during the presentation and defense of the student's work.

The thesis successfully fulfils the assigned task, with satisfactory completion of goals and adequate coverage of assigned tasks. The approach and solution methods employed in the thesis are correct, and the student demonstrates expertise in their field of study. The technical level of the thesis is sound, showcasing a solid understanding and application of relevant concepts. However, there are areas for improvement in terms of the scope and organization of the thesis. The referencing of earlier work on the topic could be enhanced. Overall, the thesis shows promise but would benefit from addressing these areas to enhance its overall quality and impact.

Questions:

- What are the reasons for not fulfilling assignment task (f)?
- Why is there a lack of discussion regarding this matter in the text?

The grade that I award for the thesis is **B - VERY GOOD**.

Date: 5th June 2023

Ing. Michal Neoral