THESIS REVIEWER'S REPORT

I. IDENTIFICATION DATA

Thesis title:	**Natural Language Inference Models with Explanations**
Author's name:	**Dmitrii Litvin**
Type of thesis :	bachelor
Faculty/Institute:	Faculty of Electrical Engineering (FEE)
Department:	Department of Cybernetics
Thesis reviewer:	Ing. Erik Derner, Ph.D.
Reviewer's department:	ELLIS Alicante

II. EVALUATION OF INDIVIDUAL CRITERIA

Assignment	**challenging**

How demanding was the assigned project?

The assignment tackles the topic of natural language inference (NLI) and addresses open research questions in this field. The task requires a great level of understanding of both theoretical NLI concepts and practical machine learning frameworks.

Fulfilment of assignment	**fulfilled**

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 meets all objectives by reviewing advanced methods for NLI, employing modern large language models (LLMs), and rigorously testing these models across different datasets. All key tasks were covered, with experimental results that offer valuable insights into the performance of various models. Overall, the thesis is focused on the assigned task.

Methodology	**outstanding**

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

The methodology applied in the thesis is robust. The use of state-of-the-art LLMs and the application of prompt engineering techniques to improve model performance demonstrate a high level of understanding and correctness in the research approach.

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, showcasing a deep understanding of the subject matter. The student effectively applies modern machine learning concepts and tools, and the technical content is communicated clearly, showing a great grasp of the field.

Formal and language level, scope of thesis	**B - very 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 is well-organized and logically structured. Formalisms and notations are used correctly. The scope of the work is appropriate for a Bachelor's thesis, including the length. The presentation is polished, and the language is mostly clear. However, there are occasional typos and draft notes, such as the Figure 2.3 caption "cite anli", "cite papers with code" on Page 24, or "Turpin incorrect, redo" in Tables 4.8–4.11. Therefore, the text would benefit from a final read.

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Selection of sources, citation correctness	A - excellent.
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 demonstrates a thorough engagement with relevant literature, providing a comprehensive overview of existing research and integrating it effectively into the study. The citations are appropriate, and the student's original contributions are clearly distinguished from existing work.	

Additional commentary and evaluation (optional)
Comment on the overall quality of the thesis, its novelty and its impact on the field, its strengths and weaknesses, the utility of the solution that is presented, the theoretical/formal level, the student's skillfulness, etc.
Overall, the quality of the thesis is high, with great insights into the field of NLI. The thesis stands out for its well-executed methodological approach and the practical relevance of the presented findings.

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 is a great piece of work that clearly demonstrates the student's deep understanding of the topic. The methodology, technical proficiency, and comprehensive use of literature make this work stand out as a BSc. thesis.

The grade that I award for the thesis is **A - excellent.**

Question for defense:

- Compare the performance of the LLM-based methods evaluated in your thesis and the traditional methods used for the NLI task, as reported in the literature.

Date: **11.6.2024**   Signature:

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