THESIS SUPERVISOR'S REPORT

I. IDENTIFICATION DATA

Thesis title:	**Exploratory action selection to learn object properties through robot manipulation**
Author's name:	**Andrej Kružliak**
Type of thesis :	bachelor
Faculty/Institute:	Faculty of Electrical Engineering (FEE)
Department:	Department of Cybernetics
Thesis reviewer:	Mgr. Matěj Hoffmann, Ph.D.
Reviewer's department:	Department of Cybernetics

II. EVALUATION OF INDIVIDUAL CRITERIA

Assignment	**challenging**
How demanding was the assigned project?	

This project was challenging as it required a demanding theoretical part applying the concepts of probability theory, information entropy etc. as well as a practical part with experiments in a robot simulator and in a real setup.

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.	

All the parts of the assignment were fulfilled. Inference in the Bayes network was performed manually; application of one of the frameworks like STAN remains future work. The experiments - "virtual", in simulation, and in real - are somewhat preliminary, but given the overall extent of the thesis, they suffice.

Activity and independence when creating final thesis	**A - excellent.**
Assess whether the student had a positive approach, whether the time limits were met, whether the conception was regularly consulted and whether the student was well prepared for the consultations. Assess the student's ability to work independently.	

The student was active, thorough, and independent during the work on the thesis. He received ample feedback from the supervisor as well as from partners within the IPALM project (Prof. Ville Kyrki in particular) as well as assistance regarding the ROS and the simulation environment from the supervisor specialist. He could plan his time to accomplish all the goals of the thesis.

Technical level	**A - excellent.**
Is the thesis technically sound? How well did the student employ expertise in his/her field of study? Does the student explain clearly what he/she has done?	

The thesis is technically at an excellent level. With planned extensions, this will become a solid contribution over state of the art.

Formal level and language level, scope of thesis	**A - excellent.**
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?	

There is a lot of theory and mathematical formalisms that the student correctly used, described and appropriately visualized. The thesis is very extensive but a very good standard of language and formatting is maintained throughout the text.

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 Related work reported in the thesis is adequate, even if largely based on the supervisor's recommendations - the student did not have time for an extensive independent study of the literature. Online resources as well as work from his colleagues (e.g. Michal Pliska) are properly cited and credited. There is an openly accessible repository hosting the code developed in the context of the thesis.

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.

The student proved to be able to independently study and apply knowledge from different disciplines and demonstrated theoretical as well as practical skills. The final document has a very high standard throughout.

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.

This is a truly exceptional Bc. thesis and it constitutes a very solid basis for turning it into a publication.

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

Date: **1.6.2021**   Signature: