

## I. IDENTIFICATION DATA

<b>Thesis title:</b>	<b>Reinforcement Learning with Parametrized Actions for Imitation Learning</b>
<b>Author's name:</b>	<b>Majsner Marek</b>
<b>Type of thesis :</b>	bachelor
<b>Faculty/Institute:</b>	Faculty of Electrical Engineering (FEE)
<b>Department:</b>	Department of Cybernetics
<b>Thesis reviewer:</b>	Ing. Vladimír Petrík, Ph.D.
<b>Reviewer's department:</b>	CIIRC - Intelligent Machine Perception

## II. EVALUATION OF INDIVIDUAL CRITERIA

<b>Assignment</b>	<b>challenging</b>
<i>How demanding was the assigned project?</i>	
The challenge lies in the extension of the selected RL method to utilize the demonstration given by humans.	

<b>Fulfilment of assignment</b>	<b>fulfilled with minor objections</b>
<i>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.</i>	
The major tasks have been fulfilled. However, the human gestures were not recognized by the Gesture toolbox, and the quality of recognition was not visualized as suggested by point four of the assignment.	

<b>Methodology</b>	<b>correct</b>
<i>Comment on the correctness of the approach and/or the solution methods.</i>	
The selected approach is legit. The student reviewed the RL algorithms, selected one for the detailed study, and proposed to incorporate demonstration by reward shaping.	

<b>Technical level</b>	<b>B - very good.</b>
<i>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?</i>	
The thesis is well-written and technically sound. However, in the experimental section, it is not clear which task the prior knowledge is evaluated on. Why is it not evaluated on all tasks that are described? As I understood, the combination of the demonstration with the RL is the main goal and should have been evaluated more.	

<b>Formal and language level, scope of thesis</b>	<b>B - very good.</b>
<i>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?</i>	
The majority of the thesis is written very well except for a few typos ("Robostuite" in the abstract, "align" in Fig. 7.3, missing whitespaces in referencing figures/prior works, using convolution operator instead of multiplication in eq. 5.1). However, sections 6.1 and 6.2.2 are too focused on the details of the implementation (e.g., referencing the Python functions that are called) instead of the description of the approach.	

<b>Selection of sources, citation correctness</b>	<b>A - excellent.</b>
<i>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?</i>	
The reference to earlier work is adequate, and the student's original work is clearly distinguished.	

<b>Additional commentary and evaluation (optional)</b>
<i>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.</i>
Please insert your comments here.



### 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 reads well. The proposed extension (student's original work) is well described; however, the thesis would benefit from a more thorough evaluation of the proposed extension.

The grade that I award for the thesis is **B - very good**.

Date: 30.01.2024

Signature: