

## I. IDENTIFICATION DATA

<b>Thesis title:</b>	<b>Automatic Assessment of Facial Movement in Multiple Sclerosis Patients</b>
<b>Author's name:</b>	<b>Louis Kälble</b>
<b>Type of thesis :</b>	master
<b>Faculty/Institute:</b>	Faculty of Electrical Engineering (FEE)
<b>Department:</b>	Department of Circuit Theory
<b>Thesis reviewer:</b>	Michal Novotný
<b>Reviewer's department:</b>	Department of Circuit Theory

## II. EVALUATION OF INDIVIDUAL CRITERIA

<b>Assignment</b>	<b>challenging</b>
<i>How demanding was the assigned project?</i>	
The topic of the objective assessment of facial palsy is novel and clinically and technologically relevant to the current state of the art. The student had to learn and apply interdisciplinary skills and knowledge, including neurology, image processing, and statistics. Therefore I consider the topic to be demanding.	

<b>Fulfilment of assignment</b>	<b>fulfilled</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 student was able to fulfill all the assigned tasks.	

<b>Activity and independence when creating final thesis</b>	<b>A - excellent.</b>
<i>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.</i>	
The student was able to independently analyze relevant literature, search for the appropriate approaches, and develop markers able to objectively describe disruption of facial movement in patients with Multiple sclerosis.	

<b>Technical level</b>	<b>A - excellent.</b>
<i>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?</i>	
The student reached a high standard of interdisciplinary research, and the thesis is technically sound. The thesis clearly explains the motivation, sets goals and hypotheses, describes the methodology, and presents and discusses results and limitations.	

<b>Formal level and language level, scope of thesis</b>	<b>A - excellent.</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>	
Formally the thesis shows a good knowledge of the organization of the scientific study. All the necessary sections are described with appropriate detail and clarity. The level of English language is very good.	

<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 student conducted exhaustive research on the topic and discussed the relevant literature in great detail.	

<b>Additional commentary and evaluation (optional)</b>
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*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 presented the study of an automatic analysis on the topic, which had never been published before. The topic and proposed methodology may have significant implications for understanding the clinical aspects of facial palsy in multiple sclerosis and thus impact the patient's quality of life.

### 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.*

The student showed the ability of independent scientific work and fulfilled all thesis aims.

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

Date: **29.5.2023**

Signature: