

I. IDENTIFICATION DATA

Thesis title:	Automatic analysis of speech diadochokinetic task of voiced consonants for the assessment of articulatory deficits in patients with multiple sclerosis
Author's name:	Michaela Měrková
Type of thesis :	bachelor
Faculty/Institute:	Faculty of Electrical Engineering (FEE)
Department:	Department of Circuit Theory
Thesis reviewer:	Tomáš Krajča
Reviewer's department:	Department of Biomedical Informatics (FBMI)

II. EVALUATION OF INDIVIDUAL CRITERIA

Assignment <i>How demanding was the assigned project?</i>	challenging
The project was interdisciplinary in its nature and the student had to combine knowledge of several different fields including neurology, linguistics and digital signal processing and machine learning. Therefore, topic was overall complex and challenging.	
Fulfilment of assignment <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>	fulfilled
The student Michaela Měrková fulfilled all the assigned goals.	
Activity and independence when creating final thesis <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>	A - excellent.
The student was able to work independently, search through state-of-the-art literature and create her own solution based on previous knowledge.	
Technical level <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>	A - excellent.
The study is technically sound, and student employed expertise in several different fields including signal processing, statistics and machine learning.	
Formal level and language level, scope of thesis <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>	A - excellent.
The student proved excellent ability to work with the scientific literature and provide scientifically sound work with excellent level of English language.	
Selection of sources, citation correctness <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>	A - excellent.
The student was able to sort through large amount of accessible scientific literature from different field and select the relevant sources. The original work was clearly distinguished from the earlier works in the field.	

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 was proactive in the searching for the solution and provided thesis on challenging topics with outstanding quality. The student showed great skill in the field of signal processing and more over was able to provide novel solution in the field of dysarthria assessment using a task of voiced diadochokinetic task which has been never before analyzed.

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

The student was able on her own to study a problematic out of her field of expertise and apply appropriate engineering approaches to solve given tasks. The quality of the thesis is excellent with rigorous analysis and proper referencing.

1. *What was the reasoning behind the ZCR and energy used for detection of initial voicing?*

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

Date: **3.6.2024**

Signature: