THESIS SUPERVISOR'S REPORT

I. IDENTIFICATION DATA

Thesis title:	**Analysis of long-term video recordings of laboratory mice with epilepsy**
Author's name:	**Bc. Jonáš Fér**
Type of thesis :	master
Faculty/Institute:	Faculty of Electrical Engineering (FEE)
Department:	Department of Circuit Theory
Thesis supervisor:	Ing. Jan Kudláček, DiS., Ph.D.
Supervisor's department:	Department of Physiology, Second Faculty of Medicine, Charles University

II. EVALUATION OF INDIVIDUAL CRITERIA

Assignment	**challenging**

How demanding was the assigned project?

The goal of the thesis was the automated analysis of several weeks-long video recordings of laboratory mice with epilepsy. The assignment had two parts: 1) Detection of seizures. 2) Analysis of behavior between the seizures.

Fulfilment of assignment	**fulfilled with minor objections**

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 first part of the assignment was fulfilled only partially because during the work we discovered that fulfilling both parts would be too demanding. Briefly, due to the longevity of the recordings the student decided to decimate the videos in time in order to reduce the computation in time. This, however, prevented the detection of individual seizures. Instead, the student attempted to detect and forecast periods of high seizure risk from the behavior which I found as a good and useful substitute. This deviation from the original assignment was suggested a fully approved by me.

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 hard working throughout the year. We discussed the work regularly. I have to emphasize that he contributed good original ideas on analysis and visualization of the results. He is fully capable of independent research and development.

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 student employed well his skills gained during his study. He used the correct methods in a correct way.

Formal level 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?

Although it required some suggestions from my side, the final version of the thesis written in clear and understandable English. The thesis is quite extensive since the student actively added several analysis that he came up with.

Selection of sources, citation correctness	**Choose an item.**

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 student cites 33 references in a standard way. He proved the ability to work well with the literature.

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.
I appreciate the student's diligence and creativity. It was a pleasure to have him in the team. He created foundations for the automated video analysis in our lab and the topic will be further explored by next students.

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.

Jonáš demonstrated that he is going to be a great engineer fully capable of independent work. The grade that I award for the thesis is **A - excellent.**

Date: **6.6.2024**   Signature: