THESIS REVIEWER'S REPORT

I. IDENTIFICATION DATA

Thesis title:	**Machine Learning for Handover in Mobile Networks**
Author's name:	**Bc. Petr Škába**
Type of thesis :	master
Faculty/Institute:	Faculty of Electrical Engineering (FEE)
Department:	Department of Telecommunications Engineering
Thesis reviewer:	Ing. Michal Vondra, Ph.D.
Reviewer's department:	Škoda Auto a.s.

II. EVALUATION OF INDIVIDUAL CRITERIA

Assignment	**challenging**

How demanding was the assigned project?

Machine learning exploited in mobile networks is a highly relevant research topic requiring a combination of knowledge from both fields. Therefore, I evaluate the assignment as challenging.

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.

The main goal of the thesis was to develop a machine learning-based algorithm maximizing the quality of service for the users. The presented results show this goal has been completely achieved.

Methodology	**outstanding**

Comment on the correctness of the approach and/or the solution methods.

The approach and used solution methods follow the highest research work standards.

Technical level	**A - excellent.**

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?

The technical level of the work is excellent. The presented results show students' deep technical knowledge of the topic. The contribution of the work is clearly stated.

Formal 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?

The thesis is very well written, and the ideas are well-presented. Besides several minor mistakes (e.g., missing reference in Algorithm 2, line 18), there is nearly nothing to complain about from a formal point of view.

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?

Regarding used references, the thesis again fulfills the highest standards of research papers. All the sources are used properly and the difference between original ideas presented in the thesis and earlier works is clearly explained.

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.

In the thesis, several future research directions for the extension of the work have been outlined. In combination with the overall high quality of the presented work, I would recommend considering continuation to the doctoral study program.

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

The overall work is excellent. I cannot evaluate it differently than A.

I would have the following two questions:
- *You have written, if a FlyBS is used as a transparent relay, measuring the channel quality is impossible. Could you explain it more?*
- *Using machine learning-based algorithms clearly leads to network performance improvement. However, could you shortly comment limitations of the employment of highly complex algorithms in real networks (e.g., are achieved results sufficient considering the computational requirements of algorithms)?*

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

Date: **21.6.2023**   Signature: