Thesis Reviewer´s Report

Student:	Kebede Zeru Kifle
Title:	Detection of IoT Cyberattacks in Smart Cities using Deep Neural Networks
Supervisor:	prof. Ing. Petr Hájek, Ph.D.
Reviewer:	doc. Ing. Miloslav Hub, Ph.D.
Reviewer's job title:	Associate professor, University of Pardubice

Assessment criteria

	excellent	very good	acceptable	unacceptable	N/A
Achievement of the aims of the thesis	☒	☐	☐	☐	☐
Use of appropriate methods	☒	☐	☐	☐	☐
Depth of analysis (in relation to the topic)	☒	☐	☐	☐	☐
Structure and extent of the thesis	☒	☐	☐	☐	☐
Use of Czech and foreign sources (including references)	☒	☐	☐	☐	☐
Formal aspects (text, diagrams, charts)	☐	☒	☐	☐	☐
Quality of language (style, grammar, terminology)	☒	☐	☐	☐	☐

Usability of the results

	high	medium	low	N/A
In theory	☐	☒	☐	☐
In practice	☐	☒	☐	☐

Other comments

The topic of the work is current and related to the study program that the author is studying.

From a formal point of view, I consider the work successful, although I have a few comments in this regard. The text is written in a comprehensible form, the logical division of the text into individual chapters corresponds to the procedure for solving the formulated problem, and the chapters follow each other logically. In terms of graphics, the work can also be considered successful. Chapter 2.4.1 is just a subsection of chapter 2.4, in this case, it is unnecessary to divide the chapter into subsections. The author uses sub-chapters of the fourth level, which seems unnecessary to me, especially when the text is not long. Figures and tables often lack a source, it should be given even if the source is the author himself. Sometimes a reference to a figure/table is missing in the text, e.g. table 5.6. Clarity is impaired by the fact that the text refers to figures/tables found in other chapters. Otherwise, I consider the work to be carefully worked out.

In terms of content, I consider the work to be above standard. The research of the current state is carried out thoroughly, and the results of the new approaches are compared with the existing approaches. The source data could have been described in a little more detail. I believe that the author has fulfilled the objectives of the thesis.

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Questions and suggestions for the defence

The quantitative indicators on page 42 indicate that you give equal weight to False Positive (FP) and False Negative (FN) errors, while the consequences of these errors are very different. How do you deal with this fact?

Based on your work, can you formulate any security measures that will reduce the risk of some IoT attacks being successful?

Overall evaluation

I **recommend** the thesis for defence.
The proposed grade for the thesis: A

In Pardubice on 16.5.2023

Signature