THESIS REVIEWER'S REPORT

I. IDENTIFICATION DATA

Thesis title:	**Terminal Operation Optimization Using Machine Learning**
Author's name:	**Martin Komínek**
Type of thesis :	master
Faculty/Institute:	Faculty of Electrical Engineering (FEE)
Department:	Department of Computer Science
Thesis reviewer:	Ing. Karel Frajták, PhD.
Reviewer's department:	System Testing IntelLigent Lab (13144)

II. EVALUATION OF INDIVIDUAL CRITERIA

Assignment	**ordinarily challenging**

The assignment is a standard machine learning project.

Fulfilment of assignment	**fulfilled with major objections**

The task was partially fulfilled. No research on current state-of-the-arf methods in terminal operation optimization was conducted. Also see my notes in methodology section.

Methodology	**correct**

The student chose the correct approach. The data analysis and data preparation should be improved and the number of parameters for ML increased. Why is distribution over the days of the week/weeks not broken down to individual ports? The same question can be asked with focus of the port type. It looks like the port location does not even matter. For this type of analysis, the data could have been loaded into OLAP cube with multidimensional view which can include hour of day, day of week, week, month, quarter of the year, etc. To better illustrate the volume of the container flow between ports the Sankey chart could have been used.

Technical level	**A - excellent.**

The student employed expertise in the field of study.

Formal and language level, scope of thesis	**C - good.**

The text is written in English. Some parts of the text are not clear and are certainly word by work translation from Czech (Companies are not uniformly distributed and can differ by several orders of magnitude; we can see … real values for days less than 10 days). The text should have been proofread.

Selection of sources, citation correctness	**C - good.**

Most of the cited sources are online sources. Selection is okay, some citations are not really relevant – for example "What is HTTPS". The bibliographic citations meet the standards.

Additional commentary and evaluation (optional)

The thesis tries to solve a real issue that can help a real company to optimize its operations, but it could have been presented better.

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

I don't have any further comments, student should answer the questions above.

The grade that I award for the thesis is **C - good.**

Date: **13.6.2024**   Signature: