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|  | Documentation of Practical Part of Exam for MLA Lecture |
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|  |  |
|  | Title of task that your group worked on  MLA-Group X  Winter semester 2019/2020 |
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Group Member

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# Introduction

The chapter “Introduction” is intended to point out the motivation for the task’s objectives and the expected results. It is recommended to consider the industrial partner’s point of view as well. The following questions might be used as a guidance:

* What are the objectives and relevant questions of the given task?
* Which results are expected?
* What is the motivation of the industrial partner with regard to the objectives/questions?

# Concept and Methodology

The chapter about the concept and the methodology shall describe the architecture of the developed solution and describe the used methods, procedures and algorithms. You should not explain mathematical background of the methods, just reference appropriate literature. The aim of this chapter is to justify the concept, method, procedures and algorithms used. Using appropriate figures might support the explanations. The following questions might be used as a guidance:

* How do the methods/procedures/algorithms interact with each other? (Interfaces, Hierarchy)
* Does it make sense to set boundary conditions under which the methodology can be used or conditions that even enable a solution?
* Typically, there are alternative methods/procedures/algorithms that might lead to equal results. For what reason were the selected methods used and not the alternatives?
* What is the structure of the overall concept from the input of the data to the output of the expected result?
* Is it possible to align the methods/procedures/algorithms with common models (OSA-CBM, CRISP-DM)?

# Technical Implementation

The chapter on technical implementation should briefly explain the tools used to implement the methods/procedures/algorithms. Do not include any code snippets in this section. It is just intended to explain the structure and the used tools/libraries. The following questions might be used as a guidance:

* Which programming environment/language was chosen for the implementation?
* Which existing libraries and versions were used?

# Presentation and Discussion of Results

From the technical implementation of the concept results can be produced using the given data base. These results need to be evaluated and verified. Subsequently, it has to be evaluated whether and with which quality the results can fulfil the desired objectives. The following questions/topics might be used as a guidance:

**Evaluation and discussion of the results**

* Use meaningful figures to present the results and also cover intermediate results
* Are there any conspicuous features in the results?
* What findings can be derived with regard to the objectives?

**Evaluation and discussion of the methodology**

* Evaluate the algorithms with common metrics
* How robust is the implemented methodology?
* How can the performance of the methodology be classified in terms of the results?
* Can reliable statements be made on the basis of the methodology?

# Applicability Analysis

The results discussed previously should be examined with regard to the objectives and motivation (business case) of the industrial partner as well as the applicability for a potential deployment. The following questions might be used as a guidance:

* Discuss the results with regard to a possible application/deployment
* What are the limits/deficits of the developed methodology?
* Are there any measures that could be taken to improve performance (different methodology / measurement of additional parameters / …)?
* What measures would be necessary for an application/deployment?

# Summary and Outlook

Briefly summarize the most important aspects of the documentation. Outline which steps you would recommend to the industry partner with regard to the task.

# References

Use the citation style of the IEEE. The sources are numbered chronologically according to their occurrence. Further information can be found here:

<https://ieee-dataport.org/sites/default/files/analysis/27/IEEE%20Citation%20Guidelines.pdf>

<https://ieeeauthorcenter.ieee.org/wp-content/uploads/IEEE-Reference-Guide.pdf>