

Final report and examination criteria

Examination criteria

Throughout the semester you are working on your projects in a group. For your final grade you will have to submit artifacts, whose parts are forming your final grade. Following you will see the artifacts with corresponding weights:

1. **Two weekly individual reports** – Sum: 20%
2. **Presentations (incl. final presentation)** – 10% each $\implies$ sum: 30%
3. **Final report** – 30%
4. **Practical solution** – 20%

1 Two weekly individual reports

You will have to submit individual two weekly reports on your project progress. Each group member has to submit a **one** page report on the **individual** work and progress on the project. The dates for the submission will be discussed in the first lecture and will be listed on the homepage of this course¹. In sum this will form **20%** of the final grade!

2 Presentations (incl. final presentation)

You will have to prepare **two** intermediate presentations on your project progress. Each group member has to show the own contribution to the group project in the presentation! The dates of the presentations will be discussed in the first lecture and will be listed on the homepage¹ of this course. At the end of the semester you will have to prepare a final presentation of **30 minutes** in length! Each presentation will form **10%** of the final grade!

3 Practical solution

You will have to work on a practical solution, which will demonstrate the practical aspects of your research. Your solution should be innovative, creative and functional! Grading depends heavily on consistency with the report! The practical solution will form **20%** of your final grade!

¹www.henrycocos.de/vorlesungen/Cloud_Computing_WiSe23/cloud_computing_wise23.html

4 Final report

Write a detailed *scientific report* in the style of an extended IEEE Transactions on Cloud Computing [4] article!

The following parts should be covered:

1. Conceptual vision of the problem and description of scope!
2. Hypotheses and research questions!
3. Detailed *related works* and *state of the art* description!
4. Detailed *methods and material* chapter in your report!
5. Prototypical implementation of a possible solution!
6. Detailed description of your experiments, test data and outcome!
7. Detailed description on the used technologies, tools and solutions of your project!
8. Detailed *results* and *discussion* chapter in your report!

Grading depends heavily on consistency and thoroughness of your arguments, formal correctness and fitting to the actual research question! The final report will form **30%** of your final grade!

Final Report: Guidelines for submission

For your final report submit a paper in the format of an IEEE publication!

This document gives you a brief overview on the format and contents of a research paper.

Detailed information on submitting a paper to an IEEE Computer Society publication can be found on the Author Guidelines page².

The manuscript types and submission length guidelines are described below. All page limits include references and author biographies.

Regular paper – 12 double column pages (Submissions may be up to 15 pages in length. All regular paper page limits include references and author biographies.) A double column page is defined as a 7.87 x 10.75 page with 9.5-point type and 11.5-point vertical spacing. These length limits are taking into account reasonably-sized figures and references.

Please use the IEEE Template³ provided for the course and use the references provided by the IEEE [1, 2, 3]!

The following sections will explain the mandatory contents of your final report!

Contents and sections of final report

Abstract

The abstract is the second filter stage for the reader. If the reader's interest in your publication has been aroused by a meaningful title, he will read the conclusion in the next step.

Introduction

The introduction serves to introduce readers to the content of your work and also refers to it as the place where the author starts to make contact with the reader. An introduction should include the context of the paper, the question, the research question, your approach, and the structure of the publication.

²*Excerpt taken from:* <https://www.computer.org/csdl/journal/cc/write-for-us/15064>

³IEEE Paper Template: https://www.henrycocos.de/vorlesungen/Cloud_Computing_WiSe23/Unterlagen/Computer_Society_LaTeX_template.zip

Related works

In the related works section, you should discuss briefly about published matter that technically relates to your proposed work. A short summary of what you can include (but not limited to) in the related works section:

- Work that proposes a different method to solve the same problem.
- Work that uses the same proposed method to solve a different problem.
- A method that is similar to your method that solves a relatively similar problem.
- A discussion of a set of related problems that covers your problem domain.

State of the art

In the introduction, you have already outlined the novelty of your research approach. This is elaborated on in the *State of the art* section, where, for example, commercially products or processes that you want to optimize through your research. In addition, the *state of the art* research, i.e., current conference and journal papers from which your approach stands out or whose concept you want to approach or whose concept you want to improve.

Methods and materials

This chapter describes all the technical methods used for the data collection, i.e. for the generation of your primary material. Since every scientific paper must be falsifiable, careful description of the experiments and studies you have conducted, maximum transparency should be achieved.

Results

In the results section, proof is provided as to whether the problem of the research project could be solved with the methods used. That is, this chapter usually contains many figures and tables.

Discussion

After the results have already been prepared graphically and in tabular form for illustration purposes, they must now be interpreted, i.e. critically contrasted with the problem.

Conclusion

Based on the interpretations, the conclusion is drawn. This serves on the one hand to critically consider the extent to which the research enterprise can be classified as successful in relation to the problem, and on the other hand to classify the results in the larger context of the research. It serves the classification of the results into the larger context of the research field.

Future work

Scientific work not only answers questions, it usually raises new ones as well, thereby and thus provide new research approaches. This means that it is quite appropriate to text with an outlook on possible research approaches based on your own results.

References

- [1] *“IEEE Reference Guide”*, <https://www.computer.org/publications/author-resources>
- [2] *“IEEE Reference Guide”*, <http://ieeauthorcenter.ieee.org/wp-content/uploads/IEEE-Reference-Guide.pdf>
- [3] *“IEEE Editorial Style Manual for Authors”*, <http://journals.ieeauthorcenter.ieee.org/wp-content/uploads/sites/7/IEEE-Editorial-Style-Manual-for-Authors.pdf>
- [4] *IEEE Transactions on Cloud Computing* <https://ieeexplore.ieee.org/xpl/aboutJournal.jsp?punumber=6245519>