Presentation and Summary Paper How to

Information Systems and Machine Learning Lab (ISMLL)

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Outline

Presentation How To

Generic Recommendation for the Presentation

Summary Paper How To

Written Paper quality

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The group presents the topic

▶ The students will present 60 minutes
 (20 minutes each)

▶ After that 30 minutes questions and answers

▶ An almost final draft must be submitted to me (schatten@ismll.de)
 one week in advance.
 Of course small corrections or structure revisions are allowed.

▶ If you are not allowed to present or you do not attend to the
 presentation you will get a 5.0 as presentation mark and the exam is
 failed.

▶ Your presentation will be available online on our website
 (www.ismll.uni-hildesheim.de/lehre/semML-16w/index.html)

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The group has to prepare one presentation alternating in the common sections, i.e. there is no main presenter, everyone speaks the same amount of time.

The presentation consists of four parts:

1. Introduce the topic
2. **Summarize the papers** (This is the main part)
3. Underline differences and similarities of the algorithms
4. Declare a winning method and how to ameliorate it

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1. Introduce the topic: this part considers all the papers and should be prepared as a team

- Introduce your group topic
- Introduce the papers briefly and motivate how you structured the presentation and why
- Think of a presentation's order that
    - helps people understand what you are talking about
    - Avoid unnecessary repetition of already explained concepts

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2. How to summarize a paper: everyone is responsible for his/her paper

- ▶ Summarize Motivation, Hypotheses and Contributions
- ▶ Explain how the algorithms is derived from the state of the art and its pseudocode.
  Integrate with additional material if needed.
- ▶ Analyze the results

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2.1 Summarize Motivation, Hypotheses and Contributions

- Check the "How to read a paper" slides

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2.2 Explain how the algorithm is derived from the state of the art

▶ **Starting point:** Generally papers' new algorithms do not come out of the blue, but are introduced starting from the most related state of the art method.

▶ Think of what your colleagues have seen already. E.g.:
   ▶ Probably one of your baselines will be Vanilla Matrix Factorization
   ▶ If you are the tenth group explaining what Matrix Factorization is be brief and leave space for new concepts
   ▶ Try to homogenize the contents of the papers

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2.2 Explain how the algorithms is derived from the state of the art

- ▶ Consider if you have enough time to explain how the equations are derived.
  Rather than repeating mechanically what's explained in the paper, try to understand and explain the approach.
- ▶ Design a pseudocode for your algorithm and explain it step by step

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2.3 Analyze the results

- ▶ First introduce datasets and evaluation protocol
- ▶ Then present the results
- ▶ Exercise your criticism: evaluation mistakes, unclear parts, hypotheses not demonstrated by experiments etc.

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3. Underline differences and similarities of the algorithms this part is also shared and should be prepared as a group

- ▶ Try to summarize the characteristics of the algorithm and compare them
- ▶ When are two results comparable?
- ▶ How could you do that?

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4. Declare a winning method and how to ameliorate it this part is also shared and should be prepared as a group

- ▶ Draw a conclusion from the summarized characteristics. What is the best method and why
- ▶ Suggest a few ideas to ameliorate the method

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It is important to:

- ▶ Involve the audience, will be counted as part of the mark
- ▶ Not omit crucial parts of the paper such as the evaluation protocol, the algorithms, the baselines, etc.
- ▶ Not omit one of the joint parts such as the introduction to the topic and the method comparison
- ▶ Try to provide your own interpretation of the models
- ▶ Have slides with your references, at the end of your presentation

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How to prepare a presentation:

1. have a separate title slide
2. have a separate agenda / overview slide
3. have a separate conclusion / summary slide
    - what are the most important facts the audience can take home?
4. provide a full reference to the paper you are discussing (authors, year, title, venue)
    – if possible, try to research some background information for the venue:
    - how large is the conference?
    - which topics are relevant?
    - what is the acceptance rate?

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How to prepare a presentation:

5. avoid "walls of text"in presentations, i.e., longer paragraphs; prefer:

   ▶ bullet point lists; focus on keywords and short sentences
   ▶ tables
   ▶ diagrams

6. have slide numbers and your name and title of the talk on the bottom of every slide

7. learn how to type formulas so you can say things "with your own formulas". (learn latex / beamer)

8. provide examples

   ▶ as a rule of thumb: an example to illustrate each major formula
   ▶ papers often do not have examples: make some on your own
     (you need to be able to type your own formulas for most examples, see above.)

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How to prepare a presentation:

9. check if for every non-standard concept there is an explanation.
   ▸ every technical word not covered in the lectures should be explained.
   ▸ if you run out of place, add those explanations to backup slides at the end – you can go there in case of questions.

10. present your presentation to someone else and ask them to note all places where they do not understand what you mean. rework these slides.

11. have an English name for each symbol, e.g., do not say just "f", but "our objective function f".
   - provide the name once in the beginning on your slides

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How to prepare a presentation:

12. learn how to type pseudocode, so you can say things "with your own pseudocode" - learn how to use the Listings package in latex, imho the most suited one

13. if you cite online materials like wikipedia, stackexchange etc., try to back them up by textbooks or papers and cite them *only if they add any value*

   ▶ online materials just citing / repeating material from textbooks are useful to find the textbooks, but not that useful to cite. go to the textbooks and get the information from there.
   ▶ always provide the date when you access the online material.
   ▶ always make and keep a pdf copy for your reference.

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Summary Paper:

- ▶ Will be a paper like document, one for each participant, of a maximum 15 pages
    - ▶ Introduce the topic
    - ▶ **Summarize the paper** (This is the main part)
    - ▶ Underline differences and similarities of the algorithms of your group
    - ▶ Argument why your method is or is not the best of the similar ones seen.
- ▶ Submit by the 03.03.2016 three hard copies and one digital copy to our secretary (hinzemelching@ismll.uni-hildesheim.de)
- ▶ A template is online here www.ismll.uni-hildesheim.de/lehre/semML-16w/index.html

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You aim at demonstrating that your paper is or is not the best one.
Your competitors are:

- The papers of your group
- Other papers you may have found that explicitly extend your method
- Related papers presented by other groups

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You have two options

- ▶ Convince the reader that your paper is the best one available
- ▶ Convince the reader that your paper is not the best one

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Summary paper structure

- ▶ Abstract
- ▶ Introduction
- ▶ Related work
- ▶ Methodology
- ▶ Experiments
- ▶ Discussions and Conclusions
- ▶ References

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Introduce:

- ▶ your group topic

- ▶ your paper

- ▶ the other papers of your group and how they are related.

- ▶ Please make sure you clearly state who were the people and related papers in your team.

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State of the art / Related work:

- ▶ Revised and integrated state of the art:
  - ▶ Add state of the art you heard about during the seminar if related
  - ▶ Add methods that ´directly extend your method
  - ▶ Remove uninteresting/outdated state of the art (Limited amount of pages!)

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Explain how the algorithms is derived from the state of the art

- ▶ Start from the most related state of the art method
- ▶ Here you need to be more self-contained as possible
- ▶ Design a pseudocode for your algorithm and explain it step by step
- ▶ Consider if you have enough time to explain how the equations are derived

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Experiments

▶ First introduce datasets and evaluation protocol

▶ Then present the results

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Discussions and Conclusions

- ▶ Exercise your criticism: evaluation mistakes, unclear parts, hypotheses not demonstrated by experiments etc.
- ▶ Try to summarize the characteristics of the algorithm
- ▶ Draw a conclusion from the summarized characteristics. Is your paper the best or not the best method and why.
  - ▶ If your paper is the best one, try to present an idea to extend the method
  - ▶ If your paper is not the best, refer to one related advancement you found and explain why that is better.

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Quality Criteria

- ▶ Organization
- ▶ Readability
- ▶ English

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Assessing the organization of the Summary paper and Presentation

- ▶ Is all the material present?
- ▶ Is any material unnecessary?
- ▶ Is the material in the right order?
- ▶ Is the paper self-contained?
- ▶ Are the title, abstract, introduction and conclusion an accurate representation of the work done?
- ▶ Is terminology defined before it is used?
- ▶ Is there an adequate use of diagrams, examples and formalism?
- ▶ Is related work discussed?
- ▶ Is the bibliography adequate?

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Assessing the readability of the Summary paper and Presentation

- ▶ Is the meaning always clear?
- ▶ Are the arguments crisp or woolly?
- ▶ Are there any cryptic or obtuse sentences?
- ▶ Does the paper ramble?
- ▶ Did the paper hold your attention?

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Assessing the English of the Summary paper and Presentation

- ▶ Are there any spelling errors?

- ▶ Are there any typographical errors?

- ▶ Are there any grammatical errors?