Seminar Algorithmentechnik
Geometry, Graphs and Algorithms

Introduction and Topic Distribution

Tamara Mchedlidze · Torsten Ueckerdt

18.10.2019
Overview

1. Organizational issues

- Structure
- Your Participation

2. Topics

- Presentation of the topics
- Distribution
- Meeting your advisor
Supervisors

Institute of Theoretical Informatics, Algorithms Group

- Tamara Mchedlidze
- Torsten Ueckerdt
- Lukas Barth
- Lars Gottesbüren
- Sascha Gritzbach
- Marcel Radermacher
- Franziska Wegner
- Matthias Wolf
- Tim Zeitz
Participants

Short presentation:
• Name
• Direction of studies/Semester
• Background in Graphs, Computational Geometry and Algorithms
Seminar Summary

• independent work on a recent research topic
• extraction of the highlights of the topic and their short presentation
• investigation of the topic and scientific presentation of it
• actively discuss the topics of the other participants
• present the details of the topics in your own words in a written document
• evaluation of a scientific text
Seminar Summary

• **independent work** on a recent research topic
• extraction of the **highlights** of the topic and their **short** presentation
• investigation of the topic and **scientific presentation** of it
• **actively discuss** the topics of the other participants
• present the details of the topics in **your own words** in a **ritten** document
• **evaluation** of a scientific text

→ Opening of your horizont on the various topics in theoretical computer science
→ Basic skills of scientific work
→ Preparation for the Master thesis and its presentation
Time-line

today: Topic distribution
Time-line

today: Topic distribution

Get familiar with the topic literature review

8.11. Short presentations
today: Topic distribution

Get familiar with the topic
literature review

8.11. Short presentations

Selection/structuring
lecture content,
Creating the slides

Presentations
today: Topic distribution

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Selection/structuring
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Presentations

Choice of the material
structuring the document,
writing

24.1 Submission of the written documents (first round)
Time-line

- today: Topic distribution

- Get familiar with the topic
  - literature review

- 8.11. Short presentations
  - Presentations
  - Selection/structuring lecture content,
  - Creating the slides

- 24.1 Submission of the written documents (first round)
  - Review of two other documents

- 21.2 Submission of the reviews

- Choice of the material
  - structuring the document,
  - writing
today: Topic distribution

Get familiar with the topic literature review

8.11. Short presentations

Presentations

Selection/structuring lecture content, Creating the slides

Choice of the material structuring the document, writing

24.1 Submission of the written documents (first round)

Review of two other documents

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Revision of your own document

20.03 Final submission of the written document
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20.03 Final submission of the written document

Approximate time

- Read, do research, understand 40h
- Making presentations and practicing 30h
- Writing and structuring 30h
- Read another work and evaluate 10h
- Presentations 10h
Your Participation

• **Short presentation** of the highlights of the topic
• **Main presentation** of the topic
• **Presence** on the presentations and **participation** in the discussions
• **Written document** of the topic, formulated in your own words with concentration on your own questions
• **Review/correction** of two documents of other participants
• Following the deadlines (help to keep the flow of the seminar)
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Grade

• Quality of the **main presentation** (content, structure, presentation skills)
• Quality of the **final written document**
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Familiarization phase

1) first look through the paper, and then read thoroughly
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2) Make overview of the related work
   • Which works and results are cited? → Related Work
   • Which of these are fundamental?
   • What is the state of the art of the research area of the paper?
     → Article search Google Scholar or DBLP; Access from the university network
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3) Assess the significance of the paper
   • Who cites this paper?
   → in Google Scholar use the function "cited by"
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4) What should you read in the literature?
   - Title and Abstract – Is the content relevant?
   - if yes – Introduction, Conclusion, Main results
   - Only if details are relevant – read all
   - Keep notes!
Short Presentation

Idea: Communicate early what you have understood...

Learning Effects:

• Better understanding of the topic
• Early feedback and ideas for possible directions
• Train for the main presentation - feedback from the advisor
Short Presentation

Content

- "Advertisement" of the main presentation
- **Motivation:** why the particular problem is studied? (fills the holes in the knowledge, applications?)
- **What results you will concentrate on:** Model, Algorithms and used techniques, main theorems?

Form

- 5 Minutes
- structured and clear slides: examples instead of a lot of text, intuition instead of formal definitions
- Use any software you prefer (**Ipe**, PowerPoint, Keynote)

* [ipe7.sourceforge.net](http://ipe7.sourceforge.net)
Learning Effects:

- Deepen the understanding by communicating the details of the topic
- Develop presentation slides - multiple feedbacks from the advisors
- Develop your presentation skills
- Get feedback from the audience and improve in the future
Main Presentation

**Timing:** 30 minutes + 15 minutes discussion

**Content:**
- Motivation of the topic
- Details of your topic
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**Content:**
- Motivation of the topic
- Details of your topic

**Struct.:**
- What can be explained clearly in 30 minutes? Make a selection of the essential issues. **Talk to your class-mate**
- What is your target group?
- Clear, logical, concise structure, illustrative examples
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**Slides:**
- bullet points, no complete sentences
- graphics use
- not too many and not too overloaded slides (about 2 min / slide)
- clear design (suitable colors, uniform font, ... )
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**Present.:**
- practice, measure time
- eye contact with the audience
- keep the listeners “awakened”, arouse their curiosity
- speak freely, slowly and clearly
- remain calm, control nervousness
Learning Effects:

• Structure and write scientific text
• How to produce formal enough but still readable text: balance between formal definitions and intuition
Written Document

**Size:** 12–15 in a given \LaTeX{}-format
Writeen Document

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**Structure:**

- short and clear Abstract
- Introduction, state of art, applications
- Selected topics in detail
- Summary / Conclusion
- complete references (BibTeX)
**Writen Document**

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**Structure:**
- short and clear Abstract
- Introduction, state of art, applications
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**Writing:**
- Do not copy text: express in your own words
- Logical structure, keep the red line
- Avoid very long sentences
- clear and consistent formulation
- avoid too long paragraphs
- Use pictures
- Cite and specify all sources correctly
- Check grammar and spelling
Mutual Reviews

Learning Effects:

• critical reading of scientific texts, constructive critiques
• deeper understanding of two(?) other seminar topics
• you and your class-mates get meaningful feedback and suggestions for improvement
Mutual Reviews

**Form:**
- written statement (form provided)
- short summary of the content
- strengths and weaknesses of the work
- review of the text (comprehensibility, structure, accuracy, language, topic coverage, ambiguities, ...)
- be constructive: detailed comments and correction instructions
- as detailed as you would like to get review for your work
- anonymous, objective and fair
Supervision

Your supervisor is your **contact** in all matters, both regarding the content, topics and the preparation presentation. It is **your** responsibility to approach him / her.
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**Informal meeting with the supervisor:**

- **≥ 2 Weeks before the main presentation:** discussion of the concepts to present
- **≥ 1 Week before the main presentation:** discussion of the slides
- **The latest till 24.12 (a month before the write-up submission):** to discuss the content of the written document
- **The latest till 6.3 (two weeks before the final submission):** Discussion of the corrected version of the document
Overview

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• Your Participation

2. Topics

• Presentation of the topics (note down the number of the topic you like, you will vote for three of them)
• Distribution
• Meeting your advisor
Next Meetings

now:

personal communication with your supervisor

8. November 9:45 am:
Short Presentations

Check web page and e-mail for the following meetings
Next Meetings

now:
personal communication with your supervisor

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Short Presentations

Check web page and e-mail for the following meetings always in this room