Knowledge Processing for Intelligent Systems 2015/16

Seminar Organisation

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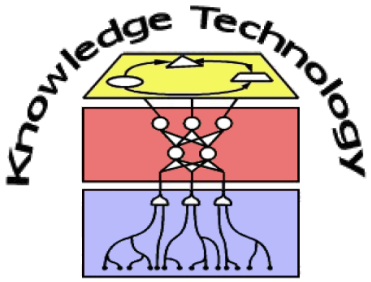


http://www.informatik.uni-hamburg.de/WTM/

What is a Seminar?

- Seminar in general
  - Not a lecture
  - For the audience: **overview** about methods and approaches
  - For the speaker: **deep knowledge** in a specific area
  - Evaluation of recent findings
    - In broad: “Survey” **or**
    - In depth: „Analysis“
- Side effects
  - Practice reading, writing and presenting
  - Preparation towards seminars and conferences in **research** and industry

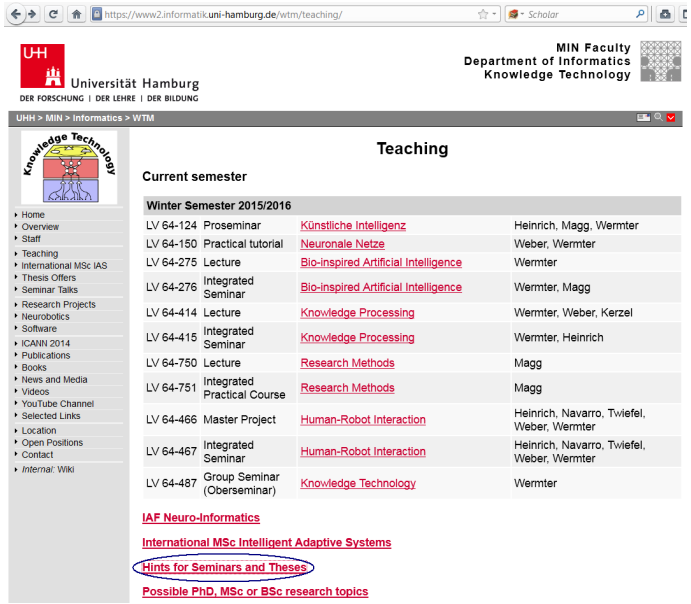
Goal of this Seminar

- Learn more about
  "Knowledge Processing for Intelligent Systems"
  - Extend the lecture by **deepening** specific topics
  - Get an overview about different research directions **or**
  - Get in contact with a specific implementation

- Some skills in scientific methodology
  - Search, learn to read, and **critically evaluate** scientific publications
  - Learn about and structure a complex topic on your own
  - Present the topic comprehensively in a paper and in a talk

How Can You Reach this Goal?

- Guidance and advice
  - Literature to get started
  - Access to material about how to read, write, and present
  - Links to good resources for literature: http://www.informatik.uni-hamburg.de/WTM/teaching/HintsForSeminars.shtml
  - Individual talks with an advisor
- Feedback from the Group
  - Reviews
  - Discussions
  - Feedback



What Do You Have to Do?

- Provide a paper
  - Survey or analysis based on literature (12 pages) or implementation (6 pages + code)
  - Our paper templates are highly recommended
  - Aim to use recent papers from conferences or journals as background
- Give a presentation
  - 20 min talk + 10min discussion, slide templates recommended
- Participate actively
  - Review two other papers
  - Attend the complete seminar block
  - Discuss the presentations
  - Maintain the deadlines

Work in teams of two is possible:
20/10 pages
35+15 min

Survey vs. Analysis

- **Analysis**: **In-depth** paper on a specific approach
  - detailed description and critical analysis of the approach
  - Critical discussion of this approach compared to other approaches (not mentioned in detail but a literature review should be clearly visible)

- **Survey**: **Comparison** of approaches
  - based on two or more approaches with outline of approaches, focussing on differences
  - In-depth discussion of advantages/disadvantages based on a critical analysis of differences

Literature- vs. Implementation-based

- Literature-based
  - Chain of argument based on literature (results/discussion)
  - Critical discussion and own arguments based on composition of results and arguments of main references
  - **Requirements: 12 pages content (for teams: 20)**
- Implementation-based
  - Focused either on a paper that describes the algorithm in detail or a piece of available and understandable code
  - Critical discussion of algorithm, including e.g. limits, possible application domains, complexity, scalability, etc.
  - Comparison to results of other approaches (referenced)
  - **Requirements: 6 pages content (for teams: 10) + code**

Criteria to Pass the Seminar

- Seminar is a “Studienleistung” ⇨ No grade, just a “pass”
- We check for:
  - Seminar paper:
    - Topic is covered comprehensively
    - Presented in scientific standards and reasonable quality
    - Shows a critical elaboration of the topic **or** implementation
  - Seminar presentation:
    - Reasonable quality of the talk, the slides, and organisation
    - Shows comprehensive understanding of the topic in talk & discussion
  - Active Participation
    - Compliance with deadlines
    - Peer reviews
    - Participation in the seminar presentations (including the discussions)
- For a “pass” of the seminar, all aspects need a “pass”

Typical Structure of Survey Seminar Paper

- Seminar papers evaluate other papers
  - Research recent and/or complementary approaches to solve an open problem
  - Focus on a critical comparison, not on an own contribution
- Suggested structure:
  - Title + Abstract
  - Table of Contents
  - Introduction: What is the research question / problem
  - Background / Related Work (if necessary)
  - Evaluation of Approaches A, B, C,...
  - Critical Discussion
  - Conclusion, Outlook
  - Bibliography

Typical Structure of Analysis Seminar Paper

- Seminar papers reports on own experience with a method
  - Implement or understand available small core algorithm
  - Run tests for strengths, weaknesses, and limits of algorithm
  - Focus on own contribution, critical compare with original paper
- Suggested structure:
  - Title + Abstract
  - Table of Contents
  - Introduction: What is the research question / problem
  - Detailed Description of Approach X and its Implementation
  - Critically report your own Results
  - Discussion, Conclusion, Outlook
  - Appendix: (own) code in readable/commented form
  - Bibliography

A Few Words on Referencing

- Most important quality in research: scientific integrity
  - Usually you base your chain of argument on arguments and ideas of others
  - Cite idea, source code, or material
  - Quote copied text from research papers
  - Avoid long or too many quotes
  - Follow citation guidelines!

More details in:
- "Hints for seminar"
- BAI seminar introduction

- How do I recognise a good reference?
  - Trustworthy, reviewed, easily accessible, unchanging
  - Good: Reviewed articles, books, edited collections, ….
  - Bad: Personal communication, blogs, news articles, Wikipedia

Seminar Topics

- List of topic can be found in the CommSy
  - Always provides one or more papers as a start
  - Has an advisor attached to it
- You can choose a topic of your own by
  - sending me a topic name and short description of focus including starting literature
  - getting assigned a suitable advisor

Your Next Steps

- Till next week:
  - Join the MIN-CommSy room
  - Choose the topic (3 preferences, prioritised) by email
    ⇨ **heinrich@informatik.uni-hamburg.de**
- In the next four weeks:
  - **Read** the initial material & **search** for more
  - **Organise** the topic:
    - Divide important from unimportant content
    - Structure the content
    - Use the help of the advisor!
- Before Christmas break:
  - Write a draft of your paper
  - Review two other draft papers

And the Further Steps

- After Christmas:
  - Use the reviews you got to improve your own paper
  - Prepare slides
- At the end of the lecture period:
  - Deliver your final paper and your slides
- After lecture period:
  - Give a presentation
  - Support the other participants with discussion and feedback

Seminar Presentation

- **As a conference block**
  - After the lecture period
  - 3 days full of presentations
  - Each presentation ~20mins + 10mins discussion/feedback
  - Exact dates will be fixed when exam dates are out
    - You need to attend the full conference
    - Current plan: Forth week of lecture-free period
    - Dates will be proposed by eMail / MinCommsy

Milestones and Deadlines

- Week 2 (20.10.): Choice of topic
- Week 5 (10.11.): Literature/Software report, paper outline
- Week 9 (16.12.): **Paper draft**
- Week 10 (06.01.): Submission of reviews
- Week 13 (19.01.): **Paper (final version)**, Slides (draft)
- Day before a conference: **Slides (final)**
  - **Deadlines are always at 18:00 by eMail to me and advisor!**
  - **All submissions except reviews as PDF**
  - **Please use prefix [KPIS] for eMail subject**

Thank you for your attention.
Any questions so far?

- WTM website:
  http://www.informatik.uni-hamburg.de/WTM/
- MIN-CommSy:
  https://www.mincommsy.uni-hamburg.de/commsy.php?cid=8009605
- Hints:
  http://www.informatik.uni-hamburg.de/WTM/teaching/HintsForSeminars.shtml
- Email for seminar issues:
  heinrich@informatik.uni-hamburg.de