Advanced Seminar
Media Informatics

Ceenu George | Sylvia Rothe | Kai Holländer | Prof. Dr. Heinrich Hußmann
Winter 2020
Information

Lecturer  Prof. Dr. Heinrich Hußmann

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What you need  → master student in Media Informatics, Computer Science, HCI
                   → English skills

What you get   → 2 SWS / 6 ECTS
                   → experience in scientific writing and research

Website  https://www.medien.ifi.lmu.de/lehre/ss19/hs
Contents

What you will do

→ select / be assigned to a research topic today
→ work _independently_ on your topic over the next weeks
→ write a **scientific paper** (6-8 pages)
→ review two fellow students’ papers
→ give a **60s pitch** and a final **presentation** (15min talk + 5min discussion)
## Schedule (preliminary)

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>03.11.20</td>
<td>Kick-Off</td>
<td>session - compulsory attendance</td>
</tr>
<tr>
<td>01.12.20</td>
<td>1st draft paper submission</td>
<td>get feedback meet your supervisor before!</td>
</tr>
<tr>
<td>08.12.20</td>
<td>60s pitch slides submission</td>
<td></td>
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<tr>
<td>15.12.20</td>
<td>60s pitches</td>
<td>session - compulsory attendance</td>
</tr>
<tr>
<td>07.01.21</td>
<td>Review-ready paper submission</td>
<td></td>
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<tr>
<td>12.01.21</td>
<td>Review submission</td>
<td></td>
</tr>
<tr>
<td>19.01.21</td>
<td>Final paper submission</td>
<td>get feedback meet your supervisor before!</td>
</tr>
<tr>
<td>26.01.21</td>
<td>1st draft slides submission</td>
<td></td>
</tr>
<tr>
<td>02.02.21</td>
<td>Final slides submission</td>
<td>practice talk with your supervisor!</td>
</tr>
<tr>
<td>09.02.21</td>
<td>Presentation</td>
<td>session - compulsory attendance, about ~5 hours!</td>
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Scientific publishing
Why we write papers and how we spread them
Aim of scientific research

“Research is a **process of steps** used to collect and analyze **information** to **increase** our **understanding** of a topic or issue”  (Creswell 2008)

Systematic process of steps

- Pose a **question** (**research question & research gap**)
- **Collect data** to answer the question
- **Present** an answer to the question
Distributing knowledge

- Books
- Articles in journals
- Articles in conferences
- Thesis (Bachelor, Master, PhD)
- Internet sources (e.g. blogs, Wikipedia)
- Talks and lectures
- Personal communication
- Patents
Distributing knowledge

- Books
- **Articles in journals**
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- Personal communication
- Patents
Peer review
Peer review

Double Blind Peer Review
Books in HCI

Methodology

Basic Research
Scientific conferences in HCI

- **Human Factors in Computing Systems** (CHI)
- ACM Conference on **Computer-Supported Collaborative Work & Social Computing** (CSCW)
- ACM Conference on **Pervasive and Ubiquitous Computing** (UbiComp)
- ACM Symposium on **User Interfaces Software and Technology** (UIST)
- ACM/IEEE International Conference on **Human Robot Interaction** (HRI)
- Conference on **Designing Interactive Systems** (DIS)
- International Conference on **Multimodal Interfaces** (ICMI)
- **MobileHCI**
- International Conference on **Intelligent User Interfaces** (IUI)
- ....
Scientific conferences in HCI (specific topics)

- IEEE Conference on **Virtual Reality and 3D User Interfaces** (IEEE VR)
- International Conference on **Tangible, Embedded and Embodied Interaction** (TEI)
- International ACM Conference on **Automotive User Interfaces** and Interactive Vehicular Applications (AutoUI)
- ACM International Symposium on **Pervasive Displays** (PerDis)
- Symposium on **Usable Privacy and Security** (SOUPS)
Scientific conferences in HCI
Conference publication formats in HCI

Full Paper

Late Breaking Work

Demos
Scientific journals in HCI

- ACM Transactions on Computer-Human Interaction (ToCHI)
- IEEE Transactions on Affective Computing
- Behaviour & Information Technology
- International Journal of Human-Computer Interaction
- ACM Transactions on Interactive Intelligent Systems (TiiS)
- IEEE Transactions on Human-Machine Systems
- ...
How to research a topic
Search, read and organize scientific literature
How to research a topic - Search

Search literature (papers, articles, books, ...)
→ Libraries
→ ACM, IEEE digital libraries
→ Google Scholar, CiteSeer
→ researcher’s / university’s website
→ classic web search
→ LMU OPAC
How to research a topic - Search

define keywords
**How to research a topic - Search**

- **Search Engine:** Google Scholar

- **Search Query:** `avocados "human computer interaction"`

- **Refine Keywords:**
  - limit publication date
  - # citations (click to search within citations)
How to research a topic - Search

advanced search

focus on specific conference
How to research a topic - Get a paper

Publications are usually not freely available (especially on ACM, IEEE). Therefore try:

1. ACM, IEEE, ... from within university network (LMU has subscriptions)
2. Use LMU University Library: OPAC (Online catalogue)
3. Google Scholar [PDF] link
5. author’s website, https://arxiv.org, ...
6. ask people with access to ACM etc.
7. polite email to author
How to research a topic - Read

Read in multiple steps
1. skim over abstract and images → worth reading?
2. read complete → get it
3. read en detail → detailed understanding

While reading
→ take notes
→ mark text passages
→ what were they doing? how? why? results?

Finally
→ see referenced papers
How to research a topic - Literature management

Tools

→ JabRef, Zotero, Mendeley, Paperpile, …

Why?

→ search and retrieve
→ labeling (‘nice’, ‘bullshit’, …)
→ notes, citations, …
How to write a paper
About storylines, citations and Tex
How to write a paper - Story

**Classic paper**

→ what problem did you solve?
→ why and how?

vs.

**Survey** (in this seminar)

→ introduce research topic
→ state of the art

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**Abstract**

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**Introduction**

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**Main part**

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**Conclusion**

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How to write a paper - Example structure

Short, appealing summary of this paper.

Context and aims in the research field.
Structure and approach of this paper.

Historical development.
Definitions, terminology, background.
Different approaches (strengths, weaknesses, ...).
(Own) categorization.

Discussion: problems, unsolved challenges.

Conclusion, outro.
Future outlook

Abstract
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Introduction
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Main part
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How to write a paper - Style

**Consider**

→ logical structure
→ clear and neutral language
→ correct grammar, no typos
→ short and simple sentences
→ introduce abbreviations (e.g. ‘Virtual Reality (VR)’)
→ use active voice (e.g. ‘we conducted a literature survey’ / ‘authors et al. found out...’)

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How to write a paper - Style

Avoid

→ fuzzy descriptions (e.g. ‘high’, ‘low’, ‘almost’)
→ empty phrases (e.g. ‘Based on these and various other findings...’)
→ fill words (e.g. ‘indeed’, ‘remarkably’)
→ tautologies (e.g. ‘LCD Display’ = ‘Liquid Crystal Display Display’)
→ pseudo-arguments (e.g. ‘of course’, ‘as expected’, ‘without doubt’)
→ unverifiable / overclaims (e.g. ‘This is the best seminar ever!’)
→ passive voice (e.g. ‘This work was conducted by Authors et al.’)
→ long complex sentences (e.g. ‘First they did this, then they this, this led to this, and I...’)
→ tempus changes (e.g. ‘they find out [...], they did this.’)
How to write a paper - Style

Avoid

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But don’t be boring!

K. San-Jensen, 2007 ‘How to write consistently boring scientific literature’
How to write a paper - Citations

Plagiarism

→ any reuse of text has to be clearly marked (direct / indirect citations)
→ plagiarism counts as attempt to deceive, resulting in failure of class

https://www.medien.ifi.lmu.de/lehre/Plagiate-Ifi.pdf
How to write a paper - Citations

Sources
→ always reference the primary source

Indirect
→ Lorem ipsum dolor sit amet [1].
→ Authors et al. [2] found out that […]
→ put references *always* before the dot [2].
→ multiple sources: [1, 2, 3]

Direct
→ only use direct quotes sparsely, e.g. for definitions
→ use correct English quotation marks for direct quotes: “This is a direct quote” [5].
How to write a paper - Requirements

→ ACM Conference Proceedings Format
→ 6-8 pages incl. references, 2 columns
→ English
→ abstract ~150 words
→ add illustrations
(no picture book, no wall-of-text)
How to write a paper - Tools

ACM Conference Proceedings LaTeX template (incl. Overleaf integration)

→ https://www.acm.org/publications/proceedings-template

→ Open template directly in Overleaf
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How to write a paper - Formatting

Best practice (which we expect)

→ add text after section headings
→ having section x.1 requires at least a section x.2
→ section headings should not exceed one line
→ avoid footnotes
→ use \texttt{\input{...}} to distribute text to multiple .tex files
→ reference \texttt{\cite{...}} literature in the bibliography
→ reference \texttt{\ref{...}} figures and tables

2 TEMPLATE OVERVIEW
As noted in the introduction, the "acmart" document class can be used to prepare many different kinds of documentation — a double-blind initial submission of a full-length technical paper, a two-page SIGGRAPH Emerging Technologies abstract, a "camera-ready" journal article, a SIGCHI Extended Abstract, and more — all by selecting the appropriate template style and template parameters.

2.1 Template Styles
The primary parameter given to the "acmart" document class is the template style which corresponds to the kind of publication or SIG publishing the work. This parameter is enclosed in square brackets and is a part of the documentclass command:
\documentclass[STYLE]{acmart}

2.2 Template Parameters
In addition to specifying the template style to be used in formatting your work, there are a number of template parameters which modify some part of the applied template style. A complete list of these parameters can be found in the \LaTeX\ User’s Guide.
Frequently-used parameters, or combinations of parameters, include:

- anonymous, review: Suitable for a "double-blind" conference
How to write a paper - Submissions

Final paper
→ LaTeX sources (.zip)
→ .pdf file

Presentation slides
→ .pdf file

Upload via Uniworx

Watch the deadlines!
Topic Assignment
Choose wisely
Next steps

- write your supervisor this week!
- meet your supervisor and discuss the structure of your paper
- write and submit your first draft (according to deadlines provided)
See you at your 60s pitch!
(mandatory attendance)