HÁSKÓLINN Í REYKJAVÍK
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Research Methodology
Conclusions and References

Lecture, 17. September 2007

Structure of Paper

- Title: "Catchy summary of paper content"
- Abstract: "Why should you read our paper"
- Introduction: "What we will tell you"
- Contribution (Main Part): "What we did"
  - Hypothesis, method, evaluation, results
- Related Work: "The context and why new"
- **Conclusion: "What we told you"**
  - **Somtimes also: Discussion, future work**
- **References: "Where to find context, etc"**

References

- Reminders about “related work”
- References in main text
- Formatting of bibliography
- Managing references

Reminders of related work

- Need to show:
  - Where ideas came from
  - What else has been done
  - What really is new
- Common mistakes
  - Misrepresentation of related work
  - Repetition of existing work
  - Overstatement of contribution

References in main text

- Purpose can differ
  - Information the reader should have, but will not be repeated (in detail) in the paper
  - Support for arguments or reference to counter-arguments
  - Related work

Format of references in text

- Different reference styles
  - Numbered
    - order of appearance
    - alphabetical
  - Keyed references
  - Name and year

- Often decided by journal or conference

Context of reference

- Avoid using reference as description
- Good:
  - “Muscettola et al propose a solution in [1], where resources are treated as disjunctive constraints, but that approach cannot handle continuous resources.”
- Bad:
  - In [1], the continuous resource problem is not handled.

Numbered

- Most recent strides in scaling up planning have centered around two dominant themes - heuristic state space planners, exemplified by UNPOP[20], HSP-R[3], and CSP-based planners, exemplified by Graphplan[2] and SATPLAN [14] .

Keyed references

- Members of this team have developed onboard planning and scheduling software for the first autonomous spacecraft [Jon00], integrated robust autonomous navigation software onto future Mars rovers [Sin00], set rover traverse distance records in the Atacama Desert [Wet99],…

Name and Year

- The current state of the art in resource reasoning for flexible plans, e.g., (Muscettola, 2002), is limited to handling addable resource transactions occurring at discrete time-points.

Bibliography is important!

- Content
  - No missing references!
- Formatting
  - Use standard formatting
  - Be very consistent (e.g., names)
- Spelling
  - A. Johnson, P. Morris, N. Muscettola and K. Rajan. Planning in Interplanetary Space: Theory and Practice. In *Proc. AIPS-2000.*

APA Style

- American Phsychological Association
- Most common for sciences, humanities, and more
- Specifies format for different types
- http://www.apastyle.org/elecref.html
- Margar vefsíður sem lýsa APA:
  - http://www.library.ubc.ca/home/about/instruct/apastyle.html

Tools to manage bibliographies

- BibTeX
  - Uses common format for input
  - Generates bibliography for LaTeX files
  - Many tools build on top of BibTeX
- Online tools and sources
  - Citeseer
  - DBLP
  - http://liinwww.ira.uka.de/bibliography/

Conclusions

- Not mandatory
- But very often useful to:
  - Summarize problem
  - State (differently) contribution
  - State impact of contribution
  - Talk about future work

Acknowledgements

- Key elements
  - Any funding that does not come directly from author's institution
  - Any non-author individuals who helped with ideas or with preparation of paper
  - Reviewers, even when anonymous