

Research Methodology in Computer Science

How to read an academic paper

Sheng-Wei Wang
swwang@mail.tku.edu.tw

CSIE@TKU

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How to read first academic paper

- Select a good paper
- Select a paper you are interested in
- Don't be upset if you cannot understand the paper
- Do not read the paper from Title to Conclusion

Select a good paper

What is a good paper

- Academic contribution
- Well organized
- Easy read
- Use general terminology

Select a paper you are interested in

- Work on your own
- Hope to understand more about the problem
- Hope to dig more about the research field
- From broad to narrow, then focus on a research problem
- Select a paper which your boss is also interested in (Important)

Don't be upset if you cannot understand the paper

- The paper has page limit
- Use reference to help reader build up the background information
- Read the classic paper first
- Root your research capability by reading more classic papers
- Spend your time reading the papers, and efficiently evaluate their qualities

Do not read the paper from Title to Conclusion

- Check the meta data to decide if you need to read or not
- Read “Introduction” section to
 - ▶ Build your background information
 - ▶ Understand the problem the authors hope to solve
 - ▶ Understand the method/algorithm the authors used
 - ▶ Get the conclusions
- After reading the Introduction section
 - ▶ If needed, read more
 - ▶ otherwise, make a research note and put it away

Suggestion

- Read the Introductions only and make research note first
- Read more than 20 papers first
- Classify the papers into different sub-research fields
- Dig more into the sub-research fields and dig deeper
- Finally, you will find the research problems

How to evaluate the papers

- Does the paper solve a new problem?
- Does the paper propose a new algorithm to an existing problem?
- Does the method proposed in this paper performs better than previous works?
- Is the paper well-organized?
- Most important: Keep doubt.

Let's Practice