

How to write a good survey?

An ECE 1771S lecture

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Start with one paper

- that is important, a landmark or a breakthrough in the research direction
- that is most recent
- that has been cited frequently
- that has a long bibliography (possibly an outdated survey itself)

Expanded-ring search

- Read the references in the initial paper
- Read the papers that cited the initial paper
- Identify the faculty member in the author list, read the papers from the same group
- Read the papers/theses from the same student author
- Read the papers from the same session in the conference the initial paper is published

Do not rely on google

- Google is not the best way to find good papers
 - It's good for finding research group or authors' web sites, though
- Paper titles may be very misleading
- researchindex.com may be good for finding citations, but do not rely on it!

Old-fashioned manual
way is the best

but when do I stop?

You stop till the set is
“self-contained”

Record your papers

- In .bib format in LaTeX
 - Bibliography software may be helpful if it generates .bib (such as Bibdesk in Mac OS X)
- At least remember the conference/journal, and last name of the most important author
 - Important to share it with others, or to find it later

How to bring new insights?

- Find the common theme, objective or problem of all related papers
- Categorize the papers in terms of their differences
- Sort them in terms of **maturity** level
 - Usually its related to its date of publication
 - Not always

More on categorizing the papers

- Do the papers differ from each other in terms of –
 - Problems to be solved
 - Techniques used
 - Assumptions of the system
 - Nature of the paper (theoretical studies vs. practical protocols)

Is that sufficient?

- Once you have categorized and sorted the existing work:
 - Establish several “tracks” of work (usually identified using references)
 - Understand the flow of ideas in each “track” of papers
- Present them well in the survey!

Be graphical

- Draw in your favorite graphing program or on scratch paper:
 - The “tree” of ideas, each branch may be a track, and the root of the tree may be the first paper in this direction
- You may even include your colourful tree (or a few more modest tables) in the paper itself!

Include your own comments and observations

- It's like writing one — and more formal — critique for many papers
 - Is it realistic? Bring the point of view from the industry
 - Is the problem solved?
 - How can the research go further towards this direction?

Evaluation Criteria

- Completeness of references
- New insights
- Clear flow of thoughts
- Easy to read and to understand
 - Include figures — a figure is worth a thousand words (and you already have too many words anyway)

Interim Survey: Feb 28

- Three pages or more: standard formatting requirements on the web
 - LaTeX based, figures in EPS
- Submit source with provided Makefile
 - I type “make” to obtain the PDF

Grading of interim survey

1 (40%) – Strong Reject: worst paper I have seen

2 (60%) – Weak Reject: mediocre paper

3 (80%) – Weak Accept: Fine but with problems

4 (100%) – Strong Accept: Excellent paper

*-1: does not satisfy formatting requirements

All interim surveys to
be broadcast to
everyone

(good bedtime reading!)