

## More Grad School Survival Skills

CPS 300: Introduction to Graduate Study

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## Announcements

- Welcome Dongtao Liu
- You should soon hear from faculty mentor (if not already)
  - Let me know if you haven't by the end of this week...
- TCSDLS talk next Monday by Garcia-Molina
  - Attendance required
- Grad student retreat next weekend (September 19-21)
  - Please attend!
  - Your assignment at the retreat: pick at least two posters that interest you most and study them carefully
    - See the last two slides in this lecture for details
- "Resources" pages on the website have been updated

## Discussion on last assignment

- Finding the "seed" paper
  - Who did you talk to?
- Hunting related papers
  - How did you find them?
- Document editing and reference management
  - LaTeX and BibTeX weren't that bad, were they?
    - What editor/environment did you use?
  - Anybody tried Microsoft Word?
  - "Aha!" moments?
  - Questions?

## Misc. LaTeX tips

- Why use tilde (~)?
  - In earlier work-`\cite{...}`, ...
  - In Section-`\ref{...}`, ...
- Why use backslash (\)?
  - `Intl.\ Conf.\ of ...`
  - `\newcommand{\DCS}{DukeCompSci}`
  - ... `\DCS\` is located in...
- What is wrong with the following?
  - `$O(\log n)$`
  - `$C_{left} \backslash gets cost * n ...$`
  - ... is required`\footnote{...}`.
  - ... is ``required''.
  - ... `$100,000$` elements...

## Figures in LaTeX

- Vector graphics vs. bitmap images
  - Plots, diagrams: use vector graphics format (.eps)
  - Photos, video frames, screenshots: use bitmap images
- Xfig makes beautiful vector drawings
  - Texts flagged as "special" are processed with your LaTeX document
    - You can use any LaTeX command (even your own macro!)
    - Fonts are consistent with the rest of the document
  - Makefile and LaTeX macro make it very easy to include LaTeX-enabled Xfig figures
- Microsoft tools (e.g., Word, Visio, PowerPoint) are simpler, but
  - Remember to export as vector graphics
  - Fonts sometime cause problems
  - My procedure: print as PDF, crop and export as .eps from Acrobat

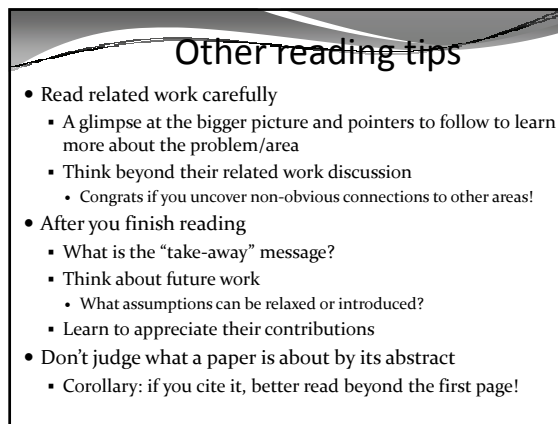
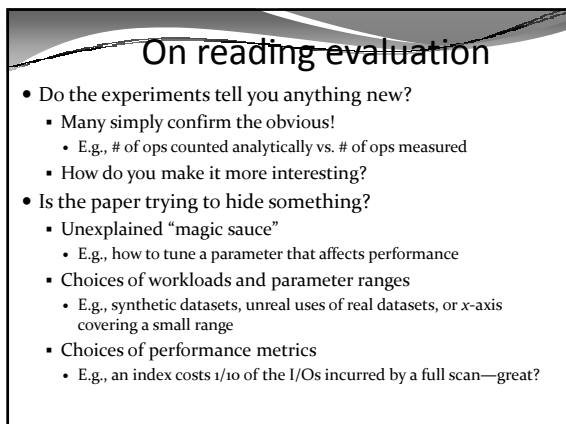
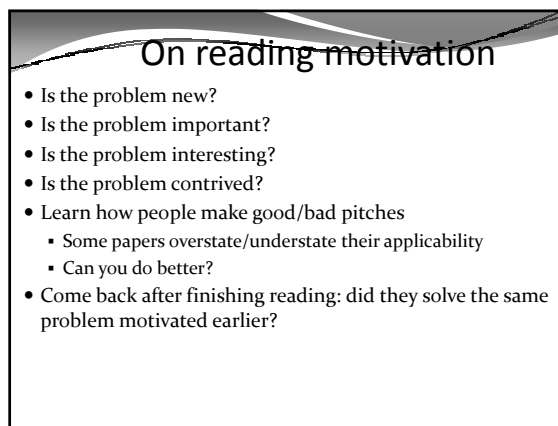
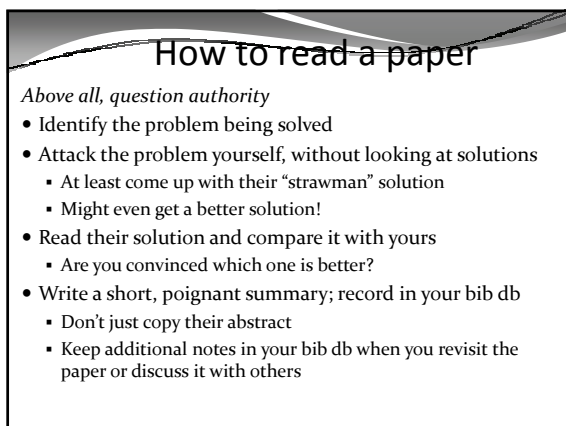
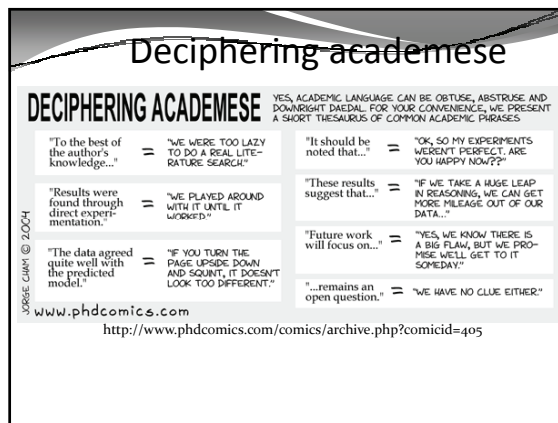
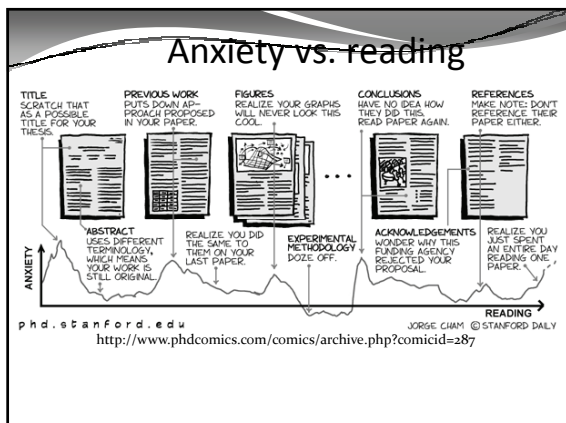
## BibTeX tips

- `strings.bib`: string definitions, e.g.:
 

```
@String{sigmod = {(ACM) (SIGMOD) International Conference on Management of Data}}
```
- `refs.bib`: the references, e.g.:
 

```
@InProceedings{sigmod06-SilbersteinBraynardEtAl-conch_sensor,
  author = {Adam Silberstein and Rebecca Braynard and Jun Yang},
  title = {Constraint-Chaining: On Energy-Efficient Continuous Monitoring in Sensor Networks},
  crossref = {sigmod06},
  pages = {157--168},
}
```
- `crossrefs.bib`: venue info, factor out to avoid redundancy, e.g.:
 

```
@Proceedings{sigmod06,
  title = {proc#1 2006 }#sigmod,
  year = 2006,
  booktitle = {proc#1 2006 }#sigmod,
  address = {Chicago, Illinois, USA},
  month = jun,
}
```
- In the LaTeX document
  - `\bibliography{strings,refs,crossrefs}`
- Use the following bibtex command to avoid creating separate bibitems for the cross-referenced entries
  - `bibtex -min-crossrefs=100 ...`
- You can build a powerful bib db environment with Emacs
  - I use it to manage PDFs of papers and notes on them



## When to meet with advisors

**WHEN TO MEET WITH YOUR ADVISOR** Is there ever a good time?

**Beginning of the week**  
**Pro:** Get it over with quickly  
**Con:** You have a guaranteed date with work on Sundays

**End of the week**  
**Pro:** You might actually have something to show by then.  
**Con:** You might not (!)

**Mid-week**  
**Pro:** Good balance. Gives you time to work on feedback  
**Con:** Your advisor will probably not show up (actually, this might be a pro)

**Saturday/Sunday**  
**Pro:** There is no "pro".  
**Con:** Your advisor is a workaholic maniac. Good luck with that.

WWW.PHDCOMICS.COM  
<http://www.phdcomics.com/comics/archive.php?comicid=1025>

## Keep the pressure on!

- Too often, advisors make advisees pressured, guilty, and scared
- But it should be the other way around!
  - Good advisees should make advisors feel (happily) pressured, guilty, and even scared

**Take initiative!**

- Propose weekly goals, meeting agendas, new problems
  - Note propose ≠ set; you will need your advisor's guidance
- Learn new, related work yourself and fill your advisor in
  - It's your dissertation area after all—you should know it better than your advisor
- Keep churning out high-quality write-ups until your advisor cannot keep up
  - Good strategy for getting more time from busy advisors

## Meeting of the minds

WWW.PHDCOMICS.COM  
<http://www.phdcomics.com/comics/archive.php?comicid=588>

## Make meetings effective

- Start with a summary of the last meeting and an agenda for this one, and end with concrete goals for next week
- Whatever you give to your advisor needs to show enough polish
  - Their time is more valuable, and they will get tired of correcting simple mistakes all the time
- *What if you get stuck?*
  - Come up with alternative approaches yourself
  - Keep a log of all thing you tried, and why they failed
  - Don't expect much low-level hand-holding from your advisor
    - Senior students may be more helpful
  - If all else failed, tell your advisor; don't wait until the next scheduled meeting
    - Even with no positive results, you will have lots of failed alternatives to report—which are still useful to research

## Communication is important

- Want your advisor to be your best advocate?
- Always keep him/her in the loop!

WWW.PHDCOMICS.COM  
<http://www.phdcomics.com/comics/archive.php?comicid=935>

## Assignment details

- Pick at least two posters and study them carefully
  - Find ones that interest you most—not necessarily the best posters per se
- Part I: when you saw the poster without the presenter
  - What caught your eyes and drew you to the poster?
  - Did you know what order to read the poster elements?
  - Could you follow the main ideas just by reading?
  - Did you have the patience to read it all, or did you skip parts?
- Part II: when the presenter explained the poster
  - Which elements of the poster did they point to in order to illustrate their points?
  - Which ones did they not use?
  - Were there any points that could have been helped by having something on the poster which was not there?

### Assignment details (cont'd)

- Part III: watch how the presenter handled traffic over time
  - How did they cope with people arriving at different times?
  - What did they do when no one was at their poster?
- Part IV: after the retreat
  - Email me your choice of two posters; I will send you the PDFs
  - Annotate these posters with ideas for improvement
  - Be prepared to share your thoughts at the next class meeting (Sep. 24—three days after retreat)