Slide 1

Lecture 15: Research Process

Information Visualization
CPSC 533C, Fall 2007

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Slide 2

Overview

► Research Process and Pitfalls

► Course-Specific Issues

Slide 3

Talk Pitfalls

Slide 4

Talk Pitfalls

► Results As Dessert
  • don't save til end as reward for the stalwart
  • showcase early to motivate

Slide 5

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► A Thousand Words, No Pictures
  • aggressively replace words with illustrations
  • most slides should have a picture

Slide 6

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► Full Coverage Or Bust
  • cannot fit all details from paper
  • talk as advertising, communicate big picture

Slide 7

Review Reading Pitfalls

Slide 8

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► Reviewers Were Idiots
  • rare: insufficient background to judge worth
  • if reviewer didn't get point, many readers won't
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Slide 9

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► It's The Writing Not The Work
  • sometimes true: bad writing can doom good work
    ◦ converse: good writing may save borderline work
  • sometimes false: weak work all too common
    ◦ many people reinvent wheel
    ◦ some people make worse wheels than previous ones

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Slide 14

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Slide 15

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  • stop and think whether it's appropriate
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  - you must say who did it in which paper
  - providing full citation is best
- You Didn't Cite Me
  - stop and think whether it's appropriate
  - be calm, not petulant
- You Didn't Channel Me
  - don't compare against the paper you would have written
  - review the paper they submitted

Process Suggestions

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  - nurture culture of internal critique

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- practice talk feedback session: at least 3x talk length
  - global comments, then slide by slide detailed discussion
  - nurture culture of internal critique
- have nonauthors read paper before submitting
  - internal review can catch many problems
  - ideally group feedback session as above

Paper Structure: General

- low level: necessary but not sufficient
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- medium level: order of explanations
  - build up ideas
- high through low level:
  why/what before how
  - paper level
    - motivation: why should I care
    - overview: what did you do
    - details: how did you do it (algorithms)
  - section level
  - sometimes even subsection or paragraph

Overview

- Research Process and Pitfalls
- Course-Specific Issues

Final Presentations

- 20 minutes each, + 5 minutes for questions
  - some context setting, but focus on results
  - ok to assume audience already saw update
- demos encouraged
  - do include screenshots in slides as backup
  - practice timing in advance since hard to do quickly
  - if you're using my laptop, must checkout in advance
- department will be invited
- refreshments will be served

Final Project Writeups

- no length restrictions
  - use images liberally
- conference paper format
  - use templates provided (LaTeX, Word)
  - submit PDF
- due two days after presentations (Fri 12/14 2pm)
- standalone document
- www.cs.ubc.ca/~imunc/courses/533/projectdesc.html#final
  - do read closely!

Final Project Writeups

- Introduction - description of problem: task, data
- Related work
- Description of solution: infovis techniques, visual encoding
- Medium-level implementation
  - must include specifics of what other components/libraries you built upon, vs. what you did yourself
- Results
- Screenshots of your software in action
- Scenarios of use
- Discussion and Future Work
  - strengths and weaknesses
  - lessons learned
  - what would you do if you had more time?
- Bibliography

Course Requirements vs. Standard Paper: 1

- research novelty not required
  - some past projects implement published technique
  - some past projects explicitly not aiming for academic publishability
  - many past projects propose solution using existing techniques (design study)
  - some past projects extend/refine algorithms (technique)
  - some past projects have become posters at InfoVis
  - some past projects could have been submitted as papers with further work

Course Requirements vs. Standard Paper: 2

- explicit explanation of what was coded is required for programming projects
  - submission of code itself not required
  - (but you're encouraged to make it available open-source!)
- part of my judgement is about how much work you did
  - high level: what toolkits etc did you use
  - medium level: what pre-existing features in them did you use
  - medium level: how did you adapt/extend existing features to solve your specific problems
- design justification is required (unless analysis project)
  - technique explanation alone is not enough
- evaluation encouraged but not required
  - tradeoff: hard to do both evaluation and design/create
- confirm that your color choices appropriate
  - vischeck.com for colorblind
  - legibility, color guidelines

Custom Evaluations